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SLSR-7-63

INITIAL SPARES PROVISIONING FOR I C B M SYSTEMS

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INITIAL SPARES PROVISIONING FOR ICBM SYSTEMS

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
in Partial Fulfillment of the
Requirements for the Degree
of Master of Science
in Logistics Management

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Graduate Logistics

June 1963

AF-WP-O-JUN 63 100

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CHAPTER I

INTRODUCTION

"Initial Provisioning for ICBM Systems" simply stated is a complex operation. Programming, budgeting, contracting, financing, transportation, maintenance engineering, production, supply, maintenance and cataloging are some of the agencies and functions that become a part of the initial provisioning procedure. Dual command management of spares assets for ICBM systems and a concept of concurrency have contributed to the complexity of present procedures and controls. Many studies have been conducted relative to the broad problem and/or its specific interrelated parts, but due to the dynamic aspects of provisioning programs, yesterday's solution may be today's problem.

At this point it is desirable to introduce a definition of initial provisioning of spares to provide a basic understanding of the interrelationships of the material that follows. Initial provisioning is the process of determining the range and quantity of items such as spares, repair parts, special tools, test equipment, and support equipment required to support and maintain an item of material for an initial period of operational service. Its phases include the identification of items of supply, the establishment of data for catalog, technical manual preparation, allowance table preparation and appropriate

instructions and procedures established to assure delivery of necessary support items prior to or with the end article.[1]

Scope

The study was conducted during the period 15 March to 15 May 1963. The scope of the study encompasses logistic support problems encountered in the acquisition and operational phases of Inter-Continental Ballistic Missile Systems. Organizational and functional responsibilities, from Air Force to Base level, are discussed where a cause and effect relationship to the problem exists.

The Titan II and Minuteman programs are the principle subjects of this study with particular emphasis on management practices in provisioning procedure, however, reference is made to the Atlas program in several sections of the thesis.

Objectives

The purpose of the thesis is to determine whether present provisioning procesures for acquiring spares and repair parts for Inter-Continental Ballistic Missile Systems are efficient and economical, and to recommend corrective measures as appropriate to present policies and procedures.

Specific objectives of this thesis are to: Determine the feasibility and desirability of combining the Air Force Holding Account (AFH) (contractor spares used in the acquisition phase) with the Air Force Weapons Account (AFW) (Strategic Air Command Operation Spares funded

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[1]DOD Directive 3232.1. Policies and Principles Governing Provisioning of End Items of Material.

and provisioned by Air Force Logistics Command) determine if the present organizational and functional structure facilitates the exercise of the functions of management to the degree necessary to assure efficient provisioning and management of spares; determine if present cataloging practices are satisfactory for peculiar items, spares for tools, and a selection for buy items during the provisioning process; determine if a problem exists in the area of documentation and documentation duplication.

Statement of the Problem

Two methods are currently employed in acquiring spares and repair parts for Inter-Continental Ballistic Missile Systems. For the acquisition phase, the Ballistic Systems Division of the Air Force Systems Command submits a specific procurement exhibit to the contractor which specifies the documentation required, management responsibilities, and other data pertinent to the contract, the contractor and the Air Force Systems Command. The Air Force Logistics Command is responsible for logistics support during the operational phase which runs concurrently with the acquisition phase at that point and time that the first missile complex is turned over to the user, the Strategic Air Command. To provide support for the operational phase, the Air Force Logistics Command submits a second exhibit, AFPI 71-673 which specifies AFLC documentation requirements and provides the necessary guidance for specific contractor and AFLC relationships.[2]

Document duplication and duplication of spares procurements may result when separate contracts are used or when several task numbers are

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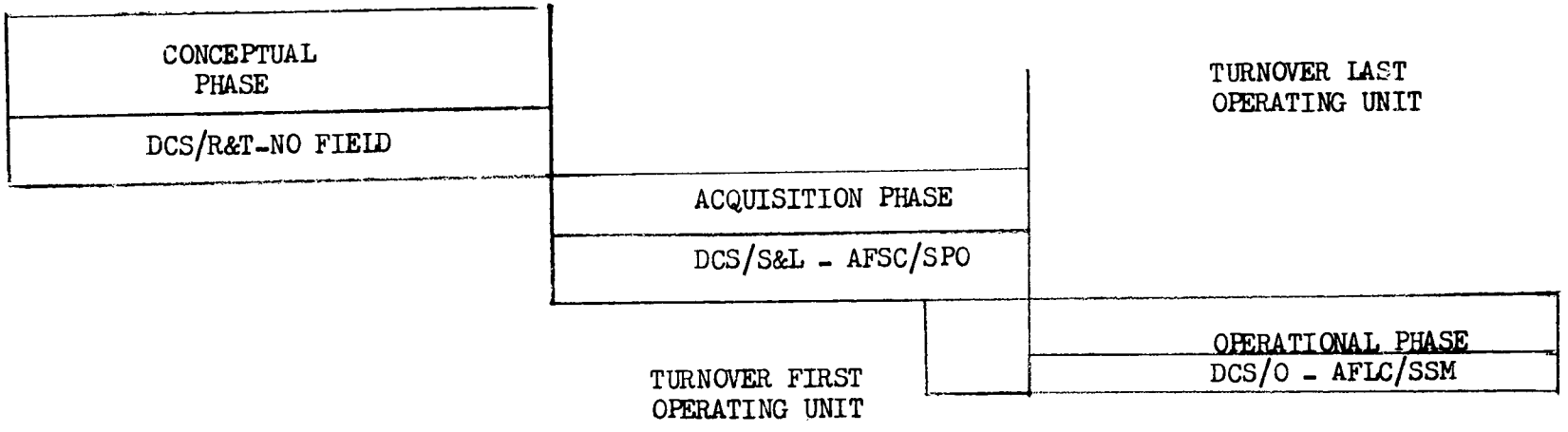
[2]Air Force Procurement Instruction 71-673. Spare Parts Provisioning Document.

assigned to a single contract. Contributing to the above situation are the separate missions and separate responsibilities assigned to the Air Force Systems Command and the Air Force Logistics Command for closely related functions.

Air Force Systems Command and Air Force Logistics Command contract separately for similar requirements. The result is separate accounts for similar spares, tools, repair parts and test equipment. Duplicate facilities were not unusual during the Atlas program. Under early Ballistic Missile Center and Air Force Systems Command contracts, the contractors provided their own facilities at missile bases, to receive, store, and issue spares and repair parts plus the tools and equipment necessary to perform their mission during the installation and checkout phase.

The spares and repair parts were in the contractor's Air Force Holding Account with management responsibility entrusted to the contractor. Under the concurrency concept, (Chart 1) the operational base prepared and received their logistical support from Air Force Logistics Command for the Inter-Continental Ballistic Missile complexes which were scheduled for completion and turnover to Strategic Air Command. Air Force Logistics Command computed the initial operating base requirements without regard to assets in the hands of the contractor. The Strategic Air Command base prepared for and received spares and repair parts into their warehouses and their Air Force Weapons Account. Two missions, two contracts, two exhibits, two facilities, and duplication for spares, tools, equipment and management existed at the base.

PHASES OF WEAPON LIFE CYCLE



CONCEPTUAL -- From determination of broad objective until documentation of intent to accomplish task (SOR).

ACQUISITION -- From document publication (SOR) until acceptance by user of the last operating unit (includes Category II test updating of last unit).

OPERATIONAL -- From conditional acceptance by user of first operating unit until final disposition from inventory.

Another contributing factor to spares duplications is lead time. Due to lead times of certain spares and equipment, the Air Force Logistics Command must commence provisioning for the operating phase during the early stages of the installation and checkout phase, at a time when the end asset position of the installation and checkout phase is difficult to determine. Excesses in the program were not uncommon since the requirements listed in the San Bernardino Air Materiel Area Air Force Logistics Command contracts generally were near duplications of the Ballistic Systems Division Air Force Systems Command spares procurement.

Provisioning techniques also contributed to the problem. The provisioning conference technique used for the Atlas and Titan I programs was less than desirable for missile spares provisioning.

In April 1962, An Air Force Logistics Command resident provisioning team was installed at the Martin-Denver Plant (Titan II) with the approval of the Air Force Systems Command, Air Force Logistics Command and United States Air Force. The purpose of the team was to condense the time scheduled for screening and cataloging items, thereby deferring spares procurement by several months which, in turn, give the resident provisioning team more time to analyze each selected item, particularly Hi-Valu and recoverable items.[3] With the additional experience obtained as a result of compressed schedules a more valid buy in item selection and quantities ordered is expected. The resident provisioning team operated under the appropriate System Support Manager. The Titan II System Support Manager is located in San Bernardino Air Materiel Area,

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[3]"Definition of Terms," Appendix A.

Norton AFB, California. Specific provisioning procedures were published for the Titan II on 11 March 1963.[4] Air Force Systems Command and Air Force Logistics Command continued to use separate exhibits and contracts for the phases for which they are responsible.

The Newark Air Force Station (Heath Facility) now under Middletown Air Materiel Area is also in condition of dual management. The System Support Manager at Ogden Air Materiel Area is concerned with the return of repaired and calibrated SM 80 Guidance Systems; the System Support Manager at Ogden Air Materiel Area is similarly concerned with the Guidance Systems of the SM 68; Middletown Air Materiel Area is the parent organization of the Newark Air Force Station. The above relationship places the Newark Air Force Station in the middle. The System Support Managers are responsible for adequate support to and from the Newark Air Force Station. Middletown Air Materiel Area provides guidance, policy, procedure and direction of the parent organization.

Some problems continue to exist in cataloging and documentation. A deviation from normal cataloging procedure was authorized for the Minuteman. Approval was received to catalog items based on "quick-look" selection of spares. Normally items are cataloged only when a firm buy accompanies the request for cataloging. The deviation dispensed with the requirement for firm buy. Timeliness was of the essence. Spares selected under the first selection (quick-look) were documented for

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[4]DOI 65-1, Titan II Provisioning Procedures, Directorate, Materiel Management. Hq SBAMA, Norton AFB, California.

[5]Interview with Ralph James, Office of the System Support Manager, SM 80, OOAMA, 28 March 1963.

cataloging and entered into the Federal Stock Cataloging System. A second screening of initially selected spares for buy was conducted, which is the usual practice; the second determination eliminated approximately 5,000 items from an original buy list of 15,000.[6] Although the items eliminated from the buy list resulted in many dollars in cost avoidance, the Federal Stock Catalog now contains 5,000 Federal Stock Numbers for which stock balances may never exist. Other related problems include the question of cataloging tools spares, the consideration of ND[7] numbers assigned by Inventory Managers for peculiar spares, and duplications of documentation.

Delimiting the Problem

In the statement of the problem, above, the Atlas, Titan I and II, and the Minuteman were included. Due to limitations in time, personnel, and money, some specified area of the problem will be discussed such as joint usage of spares, the feasibility of combining the Air Force Holding Account (contractor spares in the acquisition phase) with the Air Force Weapons Account (spares for the operational phase), dual command management of spares. The latter is closely related to the joint usage of spares, which is concerned more with organizational and functional responsibilities of Air Force Systems Command and Air Force Logistics Command and certain specific cataloging and documentation problems which are a part of the initial provisioning process. Cataloging, documentation and other logistical support responsibilities applicable to the basic hardware of the Minuteman are equally applicable to the

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[6] Ibid.

[7] "Definition of Terms," Appendix A.

guidance systems. The close relationship of many other facets of the problem cannot be ignored. The coverage of these aspects for reasons stated above will be limited to general observations, comments and recommendations.

Approach to the Problem

Many studies have been conducted in the past several years dealing with initial provisioning. The problem is dynamic, a problem of constant change. It would be wrong to say the problem has never been solved; it would probably be more correct to state the problems as they occurred were resolved. Procedures and policies, however foolproof they may be at a given point and time, must change with the changing situations as they arise. It would be desirable indeed to have necessary correct changes in procedures and policies in effect before the fact rather than after the fact, as it is practiced today. Perhaps logistics studies should be assigned in advance of a new system, rather than posthaste. Understandably, problems will be with us forevermore, conferences will be held, and regulations and procedures will be amended.

The approach to the problem required that past studies, Inspector General Reports, pertinent regulations and procedures be reviewed for understanding. Reading material from the School of Systems and Logistics, Air Force Institute of Technology, System Project Officers Course, was studied for additional insight to the problem.[8] Civilian contractors, Military personnel and United States Air Force civil service personnel

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[8] Systems Management Concepts-AFR 375, "School of Systems and Logistics, Air Force Institute of Technology.

were personally interviewed in their specific areas of interest. Ballistic Systems Division, San Bernardino Air Materiel Area, North American Autonetics, Air Force Logistics Command provisioners, Martin-Denver-Marietta-Denver, Boeing-Seattle, Western Contract Management Region, Newark Air Force Station, Specialized Repair Activity, and many others were contacted and interviewed in person or by questionnaire.

The chronology of past actions for the Titan and Minuteman,[9] and the replies from thesis questionnaire[10] to provide interesting facts and opinions for consideration and evaluation.

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[9]Chronology, Titan II and Minuteman, Appendix B.

[10]Consolidations of Replies to Thesis Questionnaires, Appendix D.

CHAPTER II

HISTORY AND BACKGROUND

This chapter will provide some history and background for subjects discussed in the statement of the problem. During the early phase of the Inter-Continental Ballistic Missile programs the Ballistic Missile Center, Air Materiel Command, had logistics support responsibility for the acquisition phase (Installation and Checkout) for the Atlas. San Bernardino Air Materiel Area, Air Materiel Command, was responsible for logistics support for the initial operating phase of the system. SBAMA and BMC were both responsible to AMC. Due to long lead times the initial provisioning of operational spares (SBAMA) for the Atlas commenced before support data from the acquisition phase (BMC) was available to influence the quantity and range of the procurement. Potential spares assets in the contractor's Air Force Holding Account were not considered in the SBAMA requirement computation for the initial operating phase; this resulted in an over-buy and excesses, particularly in recoverable items. The value of the Air Force Holding Account Category IR, Hi-Valu, and IIR that would eventually be available to the Air Force Weapons Account is estimated to be 20% of the total dollar value spares required for the

operational phase.[1] Duplications in tools, test equipment and facilities also occurred. The mission of Ballistic Missile Center, acquisition phase logistic support in the operational phase; each organization determined that its mission was paramount. As a result, the over-all Air Materiel Command and United States Air Force Logistics objectives (adequate support, efficiently and economically) was permitted to be subordinated unintentionally but effectively.

In 1961, the Air Force Systems Command (AFSC) was born. Under this alignment, the Air Force Systems Command/Systems Project Office is responsible for the acquisition phase, from the time of first document publication, the specific operational requirement until acceptance by the user of the last operating unit, which includes Category II Test updating of the last unit.

The Air Force Logistics Command/System Support Manager is responsible for the operating phase, that is, from conditional acceptance by user of first operating unit until final disposition from inventory. The concurrency concept, new to Air Force logisticians and planners, was directly and indirectly responsible for many of the problems encountered. In this concept, Installation and Checkout, occurred at more than one site at one time. As each missile was assembled and checked out it was transferred to the user, the Strategic Air Command, via the Site Activation Task Force. Thus, acquisition phase and operating phase concurrency was established at each base. The Site Activation Task Force (SATAF) originally under the control of Air Materiel Command, were later

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[1]Air Force Logistics Command. Interview with Vince Bauer, Spares Provisioning Minuteman (MCSCM). 20 May 1963.

assigned to the Air Force Logistics Command during a period of organization change and realignment.

The Site Activation Task Force responsibility was to coordinate the different Air Force responsibilities at the base and to take every action possible to insure that the contractor met scheduled completion dates for assembly and checkout.

Logistic support for the operating phase was not the responsibility of the Site Activation Task Force. Air Materiel Command, later designated the Air Force Logistics Command, was responsible for supporting the operating phase of the missile. In spite of the guidance and direction provided by Air Force Regulations[2] many and sundry problems prevailed and some continue to exist, particularly in the areas of dual management, cataloging and documentation.

Dual Spares Management

The first problem area, dual management of spares, is historically highlighted through a chronology of events for both the Titan II and Minuteman systems.[3]

The chronology for the Titan II[4] system as documented in the Logistics Management Institute Study[5] indicates that several meetings, conferences, occurred between 27 April 1961 and 23 May 1962. The primary purpose of the meetings and conferences was to effect methods and

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[2]AFR 375-Series, 12 February 1962.

[3]Appendix B. Chronology, Titan II and Minuteman, p. 48.

[4]Ibid, p. 57.

[5]Logistics Management Institute. Initial Provisioning. A Report by the Logistics Management Institute, Washington, D. C., July 1962.

procedures which would ensure: (a) that the spares purchased by AFSC for the acquisitions phase would be considered as assets by AFLC in the computation of requirements for the operational phase, and (b) that acquisition spares be made available for the operating phase on a timely basis. On 23 May 1962, the San Bernardino Air Materiel Area was still pressing the Ballistic Systems Division for acquisition phase asset information to be used in the operational spares requirements computation. Divided responsibility for logistic support resulted in dual support responsibilities and dual management of spares.

The chronology for the Minuteman reflects and recognizes a similar problem.[6] Joint usage of Air Force Holding Account and Air Force Weapons Account spares was discussed as early as January, 1961. In January, 1963, personnel from the Air Force Logistics Command, Air Force Systems Command, Ogden Air Materiel Area, Air Force Ballistic Systems Division, and The Boeing Company met to finalize operating instructions and to develop a spares joint use management agreement. The chronology, here too, reflects that dual management of spares was the primary reasons for extensive delays in resolving spares problems.

A similar but unrelated inefficiency in organizational management exists at the Newark Air Force Station, Guidance System, Specialized Repair Activity. Due to present organizational structure and assigned responsibilities, the Specialized Repair Activity has in fact, if not organizationally, a responsibility to three managers, Ogden Air Materiel Area, San Bernardino Air Materiel Area, and Middletown Air Materiel Area.

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[6]Appendix B. Chronology, Titan II and Minuteman, p. 54.

The Newark Air Force Station is the Specialized Repair Activity for the Titan and Minuteman guidance systems and the Air Force calibration and test laboratory for test equipment. In 1962, the Heath Facility was designated the Newark Air Force Station and assigned to the Middletown Air Materiel Area organizationally. It is expected that the major part of the workload will be directed to support Ogden Air Materiel Area requirements. The present System Support Manager and the Inventory Manager who determined requirements and support are from San Bernardino Air Materiel Area and Ogden Air Materiel Area, thus the Newark Air Force Station will operate for OOAMA and SBAMA primarily, but be directed by Middletown Air Materiel Area organizationally.

Deviation from standard procedures have resulted in many Federal Stock Numbers assigned, where, in fact, no item had been procured or entered into the inventory. The above situation was a result of processing item descriptions and other cataloging action after the initial selection of spares for potential buy. Normally, a firm order is required prior to a basic element of the cataloging process. After a verification of the first selection list, several thousand items were declared "no-buy."

The cataloging process was complete for the "no-buy" items; therefore, the Federal Stock Numbers were assigned where "no-buys" occurred.

At the Newark Air Force Station guidance system cataloging problems were in some measure due to shipments of spares to the station by manufacturer's part numbers rather than Federal Stock numbers and co-mingling

of High Reliability[7] items with downgraded to standard similar items. In the first instance, the Station was ready to go into production; however, repair parts were not available. The United States Air Force granted a waiver to System Support Managers and manufacturers; that is, ship now-catalog later. In the second instance, specific packaging and storage practices were necessary for high reliability items. For example, if a pacakage was opened outside of the "Clean Rooms"[8] of the Newark Air Force Station, the item was automatically downgraded to standard. Of 327 high reliability items inspected by Air Force Logistics Command cataloging section during the 22-26 April period, 77 were downgraded to standard because of violations of high reliability handling requirements.

Cataloging

The Thor Missile System originally commenced cataloging the peculiar items of the system by manufacturers' part number.[9] Later it was decided to proceed with the standard cataloging procedures and assignment of Federal Stock Numbers as appropriate.

For the Titan II program, the principal cataloging problem was timeliness. Processing time for cataloging and the related problems were appreciably reduced through the assignment of a Resident Processing Team to the Martin-Denver Plant, thus reducing the requirement for much documentation and transit time to the prime depot. A cataloging problem

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[7]Items specifically manufactured and tested for systems which require a higher rate of reliability. Normally a standard item with more demanding specifications.

[8]Clean Rooms are so designated to emphasize those areas where immaculate housekeeping is practiced. Rooms must be absolutely dust free. Clean Rooms are used for repair, testing and calibrating the delicate components of the guidance systems.

[9]Reply to Thesis Questionnaire, 30 April 1963, p. 95.

relating the spares for tools was resolved through Air Force Logistics Command decision, which authorized Inventory Managers to assign local numbers to spares for tools rather than to process through Federal Cataloging Procedures.[10]

In the Minuteman program, Resident Processing Teams were assigned to North American Autonetics and The Boeing Company to resolve similar problems. The authority to assign ND numbers to Minuteman Spares for tools was delayed somewhat; however, on 24 April 1963, approval was received at Ogden Air Materiel Area.

Documentation

The Resident Provisioning technique pioneered by San Bernardino Air Materiel Area at the Martin-Denver Plant for the Titan II, reduced the volume of provisioning documentation required to a large extent. The Titan II Provisioning Procedures[11] reflect the reduced documentation requirement.

The Minuteman program has also used the Resident Provisioning Team concept with excellent results. The Boeing Company believes documentation problems have been resolved at the Seattle Plant.[12]

Documentation problems do exist according to questionnaire replies. Due to separate and different specifications in procurement exhibits and contracts, it appears that missions of dollars are expended to duplicate the provisioning process and documents unnecessarily.[13]

The above paragraphs are intended to provide the ground floor for the more detailed discussions relative to the problems of dual management, cataloging and document duplications in the provisioning process.

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[10]AFLC Message, 13 March 1963, Appendix F, p. 118.

[11]DOI 65-1. Titan II Provisioning Procedures, Director, Materiel Management. Hq San Bernardino Air Materiel Area, 11 March 1963.

[12]Reply to Thesis Questionnaire, 9 May 1963. Appendix D, p. 80.

[13]Ibid, Consolidation of Replies, Appendix D, p. 79.

CHAPTER III

DUAL MANAGEMENT OF SPARES

During the course of the research, an almost unanimous dissatisfaction was expressed for the present alignment of management's responsibilities in support of the Inter-Continental Ballistic Missile. The chronology of events for the Titan and Minuteman indicated that divided mission responsibility delayed effective joint usage of acquisition and operational spares for approximately two years. The knowledgeable opinions of those interviewed by questionnaire reflected overwhelming support for a single manager with full responsibility for all support functions, planning, programming, funding, budgeting, training, etc.[1]

Titan II

As recorded in the chronology for the Titan II System, uncertainty existed relative to Air Force Systems Command/Air Force Logistics Command responsibilities for acquisition and operating spares. Excerpts from the Logistics Management Institute Study of Initial Provisioning for the Titan II[2] further indicate that only a small part of the spares management

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[1] "Consolidations of Replies to Thesis Questionnaires," Appendix D.

[2] Logistics Management Institute Study. Initial Provisioning. A Report by the Logistics Management Institute, Washington, D. C., July, 1962.

problem was resolved when clarification of the policy was achieved.

The primary problem continued to exist, that is, Air Force Logistics Command had the responsibility to support the system in the operating phase, while the Air Force Systems Command had responsibility to provide support during the acquisition phase. The Site Activation Task Force, under AFSC, was responsible for the turnover of each missile as it was completed, to the using command, Strategic Air Command. The Site Activation Task Force (SATAF) had no responsibility for supporting complexes after they became operational, at each base. San Bernardino Air Materiel Area, Air Force Logistics Command, assumed responsibility for providing support during the operating phase. To provide the logistical support, SBAMA had to provision months in advance of the operational data particularly for long lead time items. Information regarding potential spares availability from the acquisition phase was impossible to obtain, thus procurement and management of spares at each base was duplicated by two organizations.

The Air Force Holding Account spares were controlled by the contractor for Air Force Systems Command while the Air Force Weapons Account Spares were managed by the base with spares procured by Air Force Logistics Command.

Progress was made when joint regulation AFSCR 400-3/AFLCR 400-19 was published in September, 1962. The regulation provided for joint use of certain Hi-Valu and recoverable items. Air Force Logistics

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[2]AFSCR 400-3/AFLCR 400-19. Joint Use of Contractors' In-Production Support Materials and Operational Support Spares in Selected Missile Programs, Appendix E.

Command provisioners were instructed to consider the Hi-Valu and recoverable items as firm assets when computing operational spares requirements. Joint usage of spares (limited) and the associated cost avoidance is the plus factor here, however, unless the contractor and the Air Force Systems Command made the acquisition phase spares physically available to the operating command as required, the negative factor, that is, Missile out of commission for parts, will outweigh the positive effects of cost avoidance.

Dual budgeting, funding, provisioning and management of spares continues to exist in the Titan II program.

Minuteman

The Minuteman chronology[3] and replies to these questionnaires[4] lend strong support to the argument that dual management of spares continues to be a major problem in the provisioning process.

With the experience gained from the Atlas and Titan provisioning problems, the Air Force Ballistics Systems Division and Ogden Air Materiel Area with Strategic Air Command representation directed their attention to a straightforward solution: A Joint Usage Air Force Holding and Air Force Weapons Spares Concept.

The first meeting was held in January 1961. In January 1963, approximately two years after the first meeting, the Air Force Logistics Command, the Air Force Systems Command, the Ogden Air Materiel Area, the Air Force Ballistic Systems Division and the Boeing Company met to discuss and finalize operating instructions for the provisioning teams and

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[3]Chronology, Titan II and Minuteman, p.48,54, Appendix B.

[4]"Consolidation of Replies to Thesis Questionnaire". Appendix D.

to develop a Joint Usage management agreement that would be workable within the parameters of AFSCR 400-3/AFLCR 400-19.[5] The regulation is applicable to all ICBM systems. The agreements and regulations were a partial solution to the spares provisioning problems. They did resolve the joint usage of spares problems to some extent, however, the dual management AFSC/AFLC aspects of the problems remained.

A similarity of provisioning problems for ICBM systems would appear to dictate a single logistics control point. Personal observation at San Bernardino Air Materiel Area and Ogden Air Materiel Area indicated that better management and control could be obtained by the transfer of all ICBM responsibility to OOAMA. A by-product of this SBAMA responsibility transfer in conjunction with a transfer of the Newark Air Force Station to OOAMA from MAAMA, would be a centralized logistical control point for ICBM systems.

Guidance System

The Newark Air Force Station is the Specialized Repair Activity for the Titan II and Minuteman guidance systems. Their primary mission is to test, repair, and recalibrate guidance systems. Of prime concern to the System Support Managers are the turn-around times, capabilities, schedules, status funding and reports of this facility as it pertains to guidance systems for their respective Inter-Continental Ballistic Missile responsibility. Projected schedules indicate that the Minuteman Guidance System and other Ogden Air Materiel Area Support System Manager

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[5]AFSCR 400-3/AFLCR 400-19. Joint Use of Contractors' In-Production Support Materials and Operational Support Spares in Selected Missile Programs, Appendix E.

requirements will be approximately 70% of the workload at the Specialized Repair Activity.[6] The guidance system line item activity at the SRA is expected to peak in the 4th quarter 1964.[7]

The Newark Air Force Station was assigned to the Middletown Air Materiel Area in 1962.

Since the Ogden Air Materiel Area will be the shipper and receiver of all the Minuteman guidance systems except the few received from Vandenberg and Autonetics and whereas the ICBM primary mission at OOAMA is vitally concerned with the activity at Newark Air Force Station, and whereas the OOAMA Minuteman System Support Manager and his staff are more knowledgeable in ICBM problems, history and procedures, consideration should be given to placing the Specialized Repair Activity, Newark Air Force Station, under the functional and organizational jurisdiction of Ogden Air Materiel Area.

At the present time San Bernardino Air Materiel Area and Ogden Air Materiel Area are interested in Stock Balance and Consumption Reports for their systems. Middletown Air Materiel Area provides the guidance and instruction to the Heath Facility for maintenance of records. The records as presently maintained do not provide SBAMA or OOAMA with the product desired. Personal observations indicated that closer surveillance and guidance by the vitally concerned SBAMA and OOAMA; and Titan and Minuteman System Support Managers are in order. [8]

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[6]Interview with Major Lewis E. Moon, Director of Support, Newark Air Force Station, Specialized Repair Activity, 26 April 1963.

[7]Ibid.

[8]The author's observations made during a visit to the Newark Air Force Station on 26 April 1963.

Too, it would appear that the assignment of the Newark Air Force Station to the Middletown Air Materiel Area was not managerially sound. Better organizational and functional control could be expected if the Newark Air Force Station were assigned to the prime user of the Specialized Repair Activity, that is, the Ogden Air Materiel Area.

Conclusions

Dual management of logistics support for the Atlas, Titan I, for the greater part of the Titan II program and to a lesser extent the Minuteman program was and is a complex, confusing luxury that the Air Force and Department of Defense can ill afford. Each command with definitized goals directed their efforts to achieve the separate command objectives. The Air Force Systems Command and Air Force Logistics Command both recognized that economy and efficiency depended on consideration of Air Force Holding Account assets in the computation of Air Force Weapons Account, operational phase requirements.

San Bernardino Air Materiel Area/AMC and SBAMA/AFLC programmed full support for the Atlas and Titan I in the absence of asset information from BMC/AMC and BSD/AFSC which resulted in duplication of buy. Excesses were the obvious result, particularly for Category IR and IIR (recoverable) items.

The Installation and Checkout and Assembly and Checkout phase was often referred to as an extension of the production line, thus the spares were considered as assets only for the acquisition phase. Insufficient emphasis and consideration was given to the fact that maximum spares would be required at one given point and time for the acquisition phase. Upon reaching the peak period the requirements of

spares for the acquisition phase would progressively diminish. The contract agreement should include the provision that operational support be provided from an accelerated production schedule for the spares required for the Installation and Checkout and Acquisition and Checkout phase. To achieve this objective most efficiently, the funding and provisioning of spares for the acquisition phase and Initial Operating Phase should be the responsibility of a single manager. The Site Activation Task Force should be charged with the responsibility for management of logistic support for the acquisition phase and operational phase until the last missile (at the base) is transferred from the Installation and Checkout phase to the operating command. Presently, the Site Activation Task Force is primarily interested in site activation, the Air Force Systems Command objective. Strategic Air Command and Air Force Logistics Command are interested in spares and support for the operational phase.

Direction from Generals Bradley, Schriever, Gerrity and Funk with assists from the Martin-Denver Company and the Logistics Management Institute Study[9] prevented repetition of the Atlas and Titan I compounded logistics, in the Titan II and Minuteman programs. The present arrangement although a great improvement continues to be less than satisfactory. Air Force Systems Command funds acquisition spares and Air Force Logistics Command funds operational spares in accordance with existing regulations.[10]

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[9]Logistics Management Institute. Initial Provisioning. A Report by the Logistics Management Institute, Washington, D.C., July, 1962.

[10]Air Force Regulation 375-Series, Systems Programs, 12 February 1962.

The management of the Newark Air Force Station is unnecessarily complicated. Middletown Air Materiel Area is the parent organization for the Newark Air Force Station and thus is responsible for the satisfactory operation of that facility. San Bernardino Air Materiel Area and Ogden Air Materiel Area are primarily concerned as System Support Managers for their Inter-Continental Ballistic Missile Systems and thereby are concerned with adequate support, schedules, and turn-around times, of the guidance systems. As System Support Managers they were responsible from the initial provisioning of spares for the guidance systems. Since the greatest majority of guidance system work will be performed for and in cooperation with Ogden Air Materiel Area it appears feasible that the Specialized Repair Activity would operate more efficiently under a single manager control, that is, OOAMA.

Recommendations

Major changes in organization, function, and funding are recommended. It is my belief that the recommended changes are necessary to improve the present Air Force structure organizationally and functionally.

Funding for logistical support in the Installation and Checkout phase should be incorporated with initial provisioning for the operating phase. Financial management under a single command control would prevent expenditure duplication and provide improved management of funds.

Resident provisioning teams should be assigned to contractors' plants in sufficient time to conduct a joint review of acquisition spares required. Delivery schedule, range, and quantity of items for acquisition and initial phase should be determined jointly by contractor and resident provisioning team. Operational spares will be considered in

conjunction with Installation and Checkout spares and deliveries scheduled accordingly. The potential obsolescence factor will be reduced due to later scheduled delivery dates for Operational Phase Spares. Records maintained by the provisioning/support team would preclude unnecessary duplications in spares selections and buys. The resident provisioning team will be responsible to Air Force Systems Command for Installation and Checkout and initial operating provisioning support.

The Site Activation Task Force Command and Staff should be selected for site activation and operational responsibility. All other Missile Squadron responsibilities, including logistic support and training, should be included in the assignment package. The expected benefits from this recommendation are:

.SATAF Commander and his Staff, including San Bernardino Air Materiel Area detachment will be best qualified to assume operational responsibility due to their on-the-spot experience.

.SATAF will take an active interest in the over-the-shoulder training of missile squadron personnel. Over-the-shoulder training is the training received by the military by observing the contractors at work during the Installation and Checkout and Acquisition and Checkout phases.

.SATAF will take an active interest in base maintenance and supply facilities. SATAF will discourage base duplication of facilities, tools, test equipment and spares.

.SATAF will plan for the best utility of tools and support equipment that will be available to him for his missile squadron.

It is recommended that Ogden Air Materiel Area be designated the Air Materiel Area and depot repair activity for all Inter-Continental Ballistic Missiles and that all items peculiar to one or all ICBMs be assigned to OOAMA for support management. With the transfer of Atlas and Titan support to OOAMA, San Bernardino Air Materiel Area as an AMA would be an excellent candidate for deactivation.

It is further recommended that the Newark Air Force Station (Heath Facility) be reassigned organizationally and functionally, from Middletown Air Materiel Area to Ogden Air Materiel Area. This alignment will provide better management control and thus improve guidance system logistics support to the System Support Managers of the Minuteman and Titan II.

There are certain peculiarities inherent in the Ballistic Missile Systems that lend themselves readily to a separate Missile Command organization. The two prime characteristics are: (1) geography, that is, located in the United States in one general area and (2) the immobility of the systems, that is, fixed rather than mobile.

Another peculiar characteristic is contained in the spares provisioning program. The recoverable spares procured in the acquisition phase are in fact the spares available for the operational phase. This hard fact was a difficult but a resolvable provisioning problem under the concept of concurrency, due in no small measure to divided spare responsibilities. With this thought in mind, it is recommended that consideration and further study be accomplished relative to a cradle-to-the-grave concept in management for Inter-Continental Ballistic Missile Systems. Due to limitations in time and personnel, the recommendation is of necessity a

broad proposal. Strong support for the cradle to the grave concept is contained in the appendices.[11]

.In this proposal the System Program Director (SPD) or a designated Weapon System Manager will remain with the system from the beginning of the system to phase-out. All programming, budgeting, funding, and logistical support, including Specialized Repair Activity, will be directed and managed through his office. Under this concept Air Force Logistics Command would eventually cease to exist for Inter-Continental Ballistic Missiles initially and perhaps for other systems at a later date and time. Peculiar items would be managed by the respective System Support Managers. The Defense Supply Agency would be responsible for all common items and all cataloging responsibilities. This responsibility should be extended to include actual operations of the missile with targeting control responsibilities only assigned to Strategic Air Command. (The missile command is a fixed peculiar weapon system physially and geographically, due to the nature of ICBM systems.)

It is recommended that an Air Force task force be assigned to determine the full possibilities of this proposal.

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[11]Consolidation of Replies to Thesis Questionnaire, Appendix D.

CHAPTER IV

CATALOGING AND DOCUMENTATION

Cataloging and Documentation are two of the many important steps of the provisioning process. The coverage of subject matter in this chapter will be limited to the specific areas which are necessary to arrive at the specific objectives listed in Chapter I, page 3.

Titan II

The provisioning process relating to spares for tools was delayed for lack of specifications, drawings and other necessary documentation which were required prior to catalog and buy. There were approximately 3,000 line items of spares for tools for the Titan II. A decision by Air Force Logistics Command authorized assignment of ND numbers to these items.[1] An ND number is a nonlisted number assigned by an Inventory Manager. It is constructed by placing the appropriate FSC code in the first four positions, followed by the letters ND, a six-digit numeric nonsignificant serial number, a single alpha Air Materiel Area designation code which is a part of all ND number assignments, and the two position alpha material management code, where appropriate; i.e., 1560 ND 000001 Pxx. The results of this decision are that documentation

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[1]AFLC Message, 13 March 1963, Appendix F.

[2]AFM 67-1, USAF Supply Manual, Vol I, Part 1, Chap 7.

and cataloging costs were eliminated to a great extent, in addition to permitting immediate action procurement of the needed spares. Various estimates ranging from $1,000 to $1,500 are quoted as the cost to bring and manage a line item into the inventory.[3] By using the low estimate of $1,000, the cost avoidance could be expected to range from one million dollars to three million dollars. Some costs obviously must be considered and deducted for Inventory Managers cataloging, procurement and management actions.

Considerable progress has been made to reduce documentation costs in the Titan II program. Provisioning documentation to include the Vendor Items List, the Production List and the 100 per cent Provisioning Parts Breakdown were provided under provisioning conference techniques for the Atlas and Titan I programs.

On 11 March 1963, Headquarters San Bernardino Air Materiel Area published DOI 65-1 entitled Titan II Provisioning Practices. Its purpose was to provide instructions and assign responsibility in the application of new concepts and procedures for the processing of provisioning documentation governing the selection, procurement and furnishing of initial spares for the Titan II weapon system. The instruction also provides information to Martin-Denver personnel relative to processing such provisioning documentation.

Provisioning document changes include the elimination of the Vendor Items List, the Production List, and the 100 per cent Provisioning Parts

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[3]Air Force Logistics Command. Personal interview with Lt Colonel C. I. Williams, Cataloging Branch Chief, 24 April 1963.

Parts Breakdown. In lieu of the 100 per cent (PPB) the Provisional Parts Breakdown is required for certain designated recoverable items only. The reduction in documentation procedures were effected as a result of the new resident provisioning team concept which was established in April 1962 by San Bernardino Air Materiel Area at the Martin-Denver plant coupled with guidance provided by the new Titan II Provisioning procedure.[4] The savings in time and reduced documentation cost are considerable.

Duplication continues to occur when documentation is prepared and submitted to the Air Force under AFPI 71-673[5] for both Air Training Command and Air Force Logistics Command operational requirements. In addition, some documentation received by the Ballistic Systems Division on Research and Development contracts, are the same as that received under AFPI 71-673.[6]

Minuteman

An identical cataloging problem prevailed at Ogden Air Materiel Area for the Minuteman System. Approval to ND spares for tools for approximately 5,000 line items was received at OOAMA on 24 April 1963. Using the same $1,000 per item cost to introduce and manage an item in the inventory, as was earlier used for the Titan II spares, the cost avoidance for spares for tools documentation and cataloging is estimated to be $1.4 million to $5 million dollars.

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[4]Titan II Provisioning Practices, DOI 65-1, Directorate, Materiel Management, Hq SBAMA, Norton AFB, California. 11 March 1963.

[5]Air Force Procurement Instruction 71-673. Spare Parts Provisioning Document.

[6]Reply to Thesis Questionnaire, 30 April 1963.

For better management control OOAMA as the System Support Manager for the Minuteman has been granted Air Force Logistics Command authority to apply management code AH(OOAMA Code) to all peculiar items and Maintenance and Operations parts (irrespective of property class) currently being introduced in support of (FSG 14) guided missile and (FSG 4935) Guided Missile Maintenance Repair and Checkout specialized equipment and items. This includes those items currently being provisioned, those that have previously been identified and those resulting from design changes. This was an authorized deviation to present provisions of AFLCR 400-1.[7]

The decision in the above paragraph tests the theory of Inventory Management by Stock Class. Apparently SSM management control for peculiar items is favored in the above stated authority. The policy change does not apply to functions in cataloging and identification now being accomplished on an FSC basis including characteristics and interchangeability and substitution (I&S) Screening.

Ogden Air Materiel Area received an Air Force Logistics Command deviation authority which permitted cataloging action to be accomplished prior to firm buy. Documentation and cataloging processing actions were initiated after the quick-look phase of the selection of spares for buy process. Approximately 15,000 selected line items were processed into the Federal Cataloging System. The verification of the selection of spares for buy list eliminated approximately 5,000 items from the original

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[7]AFLC Letter dated 27 Sep 1962, subject: New Coding Criteria Applying to the SM-80 (Minuteman).

quick-look selection, thus 5,000 items were Federally cataloged where in fact no buy was conducted.[8] The deviation authority was based on timeliness. The costs incurred to catalog and later to remove from cataloging can only be estimated. The trade-off of timeliness as opposed to costs of cataloging and removal from cataloging weigh in favor of timeliness. The opinions of those interviewed at Ballistic Systems Division, San Bernardino Air Materiel Area and Ogden Air Materiel Area favor early and accurate selection of spares for procurement. If cataloging were delayed until the verification of selected spares for buy was accomplished, the pipeline for provisioning would be extended approximately 30 days based on today's screening and cataloging processing times.

Minuteman documentation problems are minor according to one contractor. Another contractor has quoted several examples of duplication and has estimated the costs of this duplication in his reply to the thesis questionnaire.[9] The following extracted questionnaire reply indicates that a problem does exist.

."In the Atlas and Titan programs separate contracts were let for different requirements, however, the SM 80 contract AF 04(694)-580 contained three types of spares requirements; Air Training Command, Acquisition and Checkout, and Air Force Logistics Command. Separate documentation (duplicated) is received for each of the separate spare items. Under separate contract procedures of the past, the contractor

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[8]Interview with Ralph James, Office of the System Support Manager, SM 80, OOAMA. 28 March 1963.

[9]Consolidated Replies to Thesis Questionnaire, Appendix D.

computed requirements separately for each contract and provided separate drawings, specifications, etc., for each contract." The single contract procedure AF 04(694)-580 did not resolve the duplication problem in this instance, since separate task numbers were assigned for Air Training Command, Acquisition and Checkout and Air Force Logistics Command requirements. Separate documentation was required for each task number."

Guidance Systems

The Newark Air Force Station also known as the Heath Facility is responsible for the test, repair, and calibration of guidance systems. In order that this in-house maintenance, capability commence production as per schedule, certain waivers to normal provisioning and supply procedures were granted.

Spares and repair parts were delayed in the normal provisioning process. The United States Air Force authorized shipment of spares and repair parts by manufacturers' part number rather than by normal Federal Stock Number to circumvent the built-in provisioning process delays. Federal Stock Numbers would be assigned at a later date. A considerable but not insurmountable workload at the Heath Facility, changing part numbers to Federal Stock Numbers would be the obvious aftermath.

Special procedures for handling and identifying high reliability items were required. Improper handling of high reliability items subjected them to downgrade to standard status. The Director of Support at the Heath Facility requested and received Air Force Logistics Command area assistance for this problem. Of more than 300 high reliability

items inspected (22-26 April) at the Heath Facility, 25 per cent were required to be downgraded to standard. Characteristics screening and appropriate change of Federal Stock Number for the downgraded items will be accomplished. "Autonetics" have agreed to ship high reliability items in bright orange packaging for ready identification.[10] The Director of Support at Heath has initiated action to establish appropriate local procedures for storage and handling of high reliability items.

Conclusions

During the period of this research several steps forward have been taken to resolve specific cataloging problems. Spares for tools were declared exempt from the Federal Cataloging System thus saving time and dollars. Spares for tools are primarily one time buy and qualified for exemption under Air Force Manual 67-1, Part 1, Chapter 7.

The Air Force Logistics Command to Ogden Air Materiel Area deviation authority to (AFLCR 400-1) which permitted the OOAMA Minuteman System Support Manager to affix the AH Code to missile peculiar items, irrespective of class code, indicated the command preference for direct item management control by system support managers.[11]

The decision to proceed with the cataloging process after the quick-look selection for spares buy appears to be a valid one. Although many items are rejected as spares for buy candidacy during the verification

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[10]Interview with Major Lewis E. Moon, Newark AF Station, Specialized Repair Activity, 26 April 1963.

[11]AFLC Letter, subject: New Coding Criterial Applying to the SM-80 (Minuteman), dated 27 Sep 1962.

selection for buy phase, the reduction in pipeline time in the provisioning process is considered as a more than adequate trade-off for the costs related to cataloging and backing out items which were cancelled from the early selection for buy.

At the Newark Air Force Station, the problem of cataloging, handling, packaging and downgrading of high reliability items was in the process of resolution during the week 22-26 April. Bright orange identification packaging by North American Autonetics, and local procedures and instruction is expected to resolve the handling and identification problems.

The assignment of Federal Stock Numbers to items shipped to Newark Air Force Station by parts numbers earlier in the specialized repair activity function is proceeding satisfactorily.[12]

Duplication of documents due to contract or exhibit requirements will continue to exist so long as separate exhibits or separate requirements are levied on the contractor regardless if one or more contracts are used for the acquisition and initial operating phase of the Inter-Continental Ballistic Missile Systems.

The resident provisioning team concept employed by San Bernardino Air Materiel Area at Martin-Denver for Titan II provisioning and the recent Titan II provisioning procedures developed at SBAMA have together been responsible for a considerable reduction of documentation. Documents eliminated are the Vendors Items List and the Production List. The Provisioning Parts Breakdown formerly provided for all items will in future be required for certain designated recoverable items only.

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[12]Newark Air Force Station, Specialized Repair Activity. Personal Interview with Major Lewis E. Moon. 26 April 1963.

Recommendations

Present practice of ND cataloging for spares for tools should be consistent and continued within the scope of AFM 67-1, Vol. I, Part 1, Chapter 7.

Only highly qualified personnel in provisioning should be assigned to the resident provisioning teams to insure a high validity rate in the selection of spares buy during the quick-look selection phase. More accuracy in this selection phase will reduce the number of unnecessary Federal Stock Numbers assigned and backed out of the Federal Cataloging System.

Packaging and distinguishable identification of High Reliability items should be standardized in order that ready identification and specialized handling may be accorded.

It is recommended that System Support Managers at Ogden Air Materiel Area and San Bernardino Air Materiel Area take an active interest in the Newark Air Force Station Specialized Repair Activity. Since the SSMs are the prime Inventory Managers for peculiar items for the guidance system, an active liaison relationship should be established. The support from the Specialized Repair Activity will depend to a great extent on the support from the SSM. A honeymoon relationship is desirable for best results. An earlier proposal to place the Newark Air Force Station under OOAMA is the best recommended solution to remedy cataloging and support problems for both organizations.

As a result of interviews in the field and responses to questionnaires, it appears that the resolution of document duplication problems

due to exhibit and contract requirements revolve and could be resolved through the assignment of one exhibit, one contract and one manager for all requirements for the Installation and Checkout/Acquisition and Checkout Phase, Air Training Command and Air Force Logistics Command requirements.

Questionnaire extracts from experts in the field are quoted to reflect field opinion on this point.

In the words of one respondent, "I believe that spares provisioning documentation/procedures would be greatly enhanced by the development of a single spares documentation exhibit which would initially document spares data during Installation and Checkout/Acquisition and Checkout and update to final operational program documentation configuration for cataloging, identification, provisioning, etc., actions required to field and maintain a sophisticated weapon system."

."A single document with standard operating procedure across-the-board. ---in the present practice contractors have a blank check to support themselves with no significant surveillance during the I&C phase. This has resulted in many millions of dollars excess at the completion of I&C. Implementation of joint usage under AFLCR 400-19/AFSCR 400-3 will eliminate excess in Cat I and IIR; however, it is believed that the Air Force should maintain a control over the Cat III and piece support. ---Possibly documentation if provided under 71-673 for the whole concept of Research & Development, I&C, operational, etc., would provide the control required."

"...The Air Force needs a single document, but not MCP 71-673

(now AFPI 71-673) for the initial provisioning of spares. The responsible command for fielding weapon systems should have a capability to program, budget and buy all initial equipment including the initial operational spares for any system being brought into the inventory..."

The above comments indicate the problem here too is recognized. Recommend an Air Force task group be assigned the responsibility to consider a single exhibit to be applicable to Installation and Checkout, Acquisition and Checkout, Air Training Command and Air Force Logistics Command operating spares for Inter-Continental Ballistic Missile Systems.

The single exhibit recommendation did not have complete indorsement by all persons interviewed, however, there was near complete unanimity in their recommendations for single contracts and single managers as the solution to document duplication problems.

For your review and consideration the detailed replies of all persons interviewed by questionnaires are summarized[13] and consolidated[14] in the appendices.

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[13]Summation of Replies to Thesis Questionnaire, Appendix D, p. 64.

[14]Consolidation of Replies to Thesis Questionnaire, Appendix D, p. 73.

CHAPTER V

SUMMARY

Dual Management of Spares

The chronologies of the Titan II and Minuteman Systems reveals that clarification of Air Force Systems Command and Air Force Logistics Command responsibilities were time-consuming and were no small part of the Spares management problem. It also indicated a need for single management control of Air Force Holding Account (Contractor Spares) and Air Force Weapons Account (Operating Spares). This is particularly important since the value of the Air Force Holding Account Category IR and Category IIR which would eventually be made available to the Air Force Weapons Account during and upon completion of the acquisition phase are estimated to be 20% of the total dollar value of initial operating phase required spares. AFSCR 400-3/AFLCR 400-19 has resolved the problem to some extent.[1] Under separate managements (dual management) a duplicated buy of recoverable items could be expected.

Present funding procedures, that is, Air Force Systems Command funds for the acquisition phase spares, and Air Force Logistics Command funds for the operational phase spares complicate the accounting problem under a joint usage concept, therefore, it is recommended that only one command

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[1]AFSCR 400-3/AFLCR 400-19, Joint Use of Contractors' In-Production Support Materials and Operational Support Spares in Selected Missile Programs, Appendix E.

be allotted spares dollars to provide for spares during the acquisition and initial operating phase.

To preclude duplication of spares buy, duplication of facilities, tools, and test equipment, and to control distribution of acquisition phase spares to support the operating phase (under the concurrency concept) a single manager with logistical support responsibility for both the acquisition phase and initial operating phase is recommended (final turn-key at base level). Therefore, it is recommended that AFSC at command level and Site Activation Task Force at base level be so charged.

The provisioning conference technique was responsible for a great deal of delay in selection of spares for buy. The time delays resulted in a considerable number of interim releases for contractor buys. The resident provisioning team concept pioneered by San Bernardino Air Materiel Area in April, 1962 at Martin-Denver and adopted by Ogden Air Materiel Area for the Boeing-Seattle and North American Autonetics plants is most effective. Their provisioning responsibilities should include a joint review with the contractor to determine the range, depth and delivery schedules of acquisition as well as operating spares. As indicated earlier, 20% of the dollar value of initial operating spares is already contained and will be available from the acquisition phase. It can be expected that the potential obsolescence factor will be decreased by control phased scheduling.

The recommendation was made to designate Ogden Air Materiel Area as the Air Materiel Area and depot repair activity for all ICBM systems. The San Bernardino Air Materiel Area responsibilities would be transferred

to Ogden Air Materiel Area and SBAMA be phased-out as an AMA. The present operation and activity at SBAMA does not justify the duplication of overhead which could probably be avoided by the transfer of Atlas and Titan logistical support responsibilities to Ogden Air Materiel Area. All items peculiar to one or all of the Inter-Continental Ballistic Missile systems would become the Inventory Manager responsibility of OOAMA.

The Newark Air Force Station is an organizational part of Middletown Air Materiel Area. The majority (70 to 80%) of all guidance systems activity at the Newark Air Force Station will be supported by and be in support of systems managed by OOAMA. The major concern of the ICBM System Support Managers for the immediate future will be the guidance system; therefore, for more effective System Support Manager management control, logistic support and compatible procedural and reporting guidance, it is recommended that the Newark Air Force Station be organizationally assigned and functionally responsible to OOAMA. It is further recommended that this proposal receive immediate attention.

A controversial recommendation for cradle to grave management of ICBM weapon systems was advanced. The recommendation exceeds the bounds of this study and was suggested for further research to the United States Air Force. The proposal is kin to the "Hitch" concept of system packaging. Basically, the proposal suggests that the System Program Director remain with the weapon system as a bona fide weapon system manager from conception to phase-out. All programming, budgeting, funding, logistical support, training, installation and checkout and operations would be single manager controlled by and through the Office

of the Systems Program Director, the Weapon System Commander. The questionnaire opinion was 12 affirmative with no dissenting opinions for cradle to grave managership.

Cataloging and Documentation

Only selected problem areas of cataloging and documentation were discussed in this study. During the time period of the research phase, progress was recorded in each subject of study. The first problem pertained to decision-making; should spares for tools be federally cataloged or should these items be cataloged by the Inventory Manager, that is, assigned ND numbers? Air Force Logistics Command decisions for Titan II contracts authorized the Inventory Manager to assign ND numbers to spares for tools. The number of line items which qualified for this exception to Federal cataloging are estimated between 3,000 and 5,000. The decision to apply the same criteria and exception to Minuteman spares for tools was not included. On 24 April 1963, the System Support Manager at Ogden Air Materiel Area received authority consistent with the earlier decision for the Titan II contracts. The researcher may have contributed to the favorable decision obtained by OOAMA through his interviews and comments regarding the inconsistency of decisions for spares for tools. OOAMA had approximately 5,000 line items which became eligible for Inventory Manager Cataloging (ND) as a result of this decision.

During inquiries relating to feasibility of assigning missile peculiar items to the ICBM/SSM for management it was discovered that this authority did in fact exist. An Air Force Logistics Command letter

dated 27 September 1962, authorized Ogden Air Materiel Area as the System Support Manager for the Minuteman to apply management code AH (OOAMA Code) (irrespective of property class) to all peculiar components and maintenance and operations parts in support of Guided Missiles (FSG 14) and Guided Missile Maintenance Repair and Checkout Specialized Equipment (FSC 4935) end items.[2] This deviation from the regulation AFLCR 400-1 apparently reflects greater confidence in the weapon system manager concept than it does in Federal Class management.

A cataloging deviation from procedure was noted in the Minuteman selection for buy practice. Items were processed for cataloging without firm procurement action based on the quick-look selection of spares for buy. During later verification selections, several thousand items were determined to be unnecessary and no buy action taken. The cost to catalog these items and then back them out of the Federal Catalog System were considered to be a fair trade-off, that is, it reduced the buy pipeline by approximately 30 days.

The Newark Air Force Station (Heath Facility) encountered a cataloging problem as a result of accelerating shipments from contractors. Parts were received by manafacturers' part number; Federal Cataloging was to follow. The Director of Support at the Heath Facility is confident that with time the cataloging will become current without detrimental effect to the mission.

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[2]AFLC letter, subject: New Coding Criteria Applying to the SM-80 (Minuteman), dated 27 September 1962. Appendix C.

Special significant color packaging will now identify North American Autonetics high reliability Guidance System items. During the week 22-26 April, Air Force Logistics Command resolved a Newark Air Force Station cataloging problem relating to downgrading and changing Federal Stock Numbers for items which for one reason or another did not qualify for the high reliability Federal Stock Numbers.

Documentation

Duplication of documentation in two specific areas were researched through interview and questionnaire techniques. During the course of this study, some significant corrective action was taken in one area of inquiry. By installing permanent resident provisioning teams at the Martin-Denver plant, the SBAMA Titan II System Support Manager was able to eliminate the Vendor Items List, Production Lists and reduce the requirements for Provisional Parts Breakdown to only selected Cat I and IIR items. The Titan II provisioning practices dated 11 March 1963, were published and distributed in April 1963.[3]

The second problem area of duplication in documentation concerns itself with exhibits and contracts. Several questionnaire comments were quoted in the recommendations for documentation. A single spares provisioning exhibit to be used for the Installation and Checkout, Assembly Checkout, and Initial Operating Phase received strong support from respondents to questionnaires. Agreement was practically unanimous that a single contract, single funding and single management control of logistic support would reduce duplication of document to the desired minimum.

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[3] Titan II Provisioning Procedures, DOI 65-1, Director, Materiel Management, San Bernardino Air Materiel Area.

General

Thirteen replies were received of 27 questionnaires mailed. An excellent sample was obtained. Responses were received from key personnel from the Ballistic Systems Division-Air Force Systems Command, San Bernardino Air Materiel Area-Air Force Logistics Command, Hq Air Force Logistics Command, North American Autonetics and The Boeing Company. The replies are summarized in one questionnaire.[4] All replies were consolidated for those who may have a particular interest in the opinions to specific questions.[5]

The questionnaire, personal interviews and general discussions with the class members and faculty were given full consideration in the text of the thesis.

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[4]Summarization of Replies to Thesis Questionnaire, Appendix D.

[5]Consolidation of Replies to Thesis Questionnaire, Appendix D.

APPENDIX A

DEFINITION OF TERMS

Hi-Valu.--A Hi-Valu item is an item whose monetary worth is such that it is procured in ultra-conservative quantities and then subjected to special handling and management controls. These items are normally selected not only on the basis of their unit cost, but also on their total value, i.e., unit cost multiplied by the quantity required. The specific items selected for Hi-Valu control are identified in the 00-35F-1 Series Technical Orders. Hi-Valu items and Cost Category I items are synonymous.

Recoverable item.--An item that has been determined to be more economical to repair than replace. Cat IR items are Hi-Valu recoverables; Cost Cat IIR are recoverable items with unit cost over $10.00.

ND Numbers.--Inventory Manager assigned nonlisted numbers constructed by placing the appropriate Federal Stock Catalog code in the first four positions, followed by the letters ND (indicates IM assigned), a six-digit numeric nonsignificant serial number, a single alpha AMA designator code which will be a part of all ND number assignments and the two position alpha material management code, where appropriate; i.e., 1560 ND 000001 Pxx.

APPENDIX B

CHRONOLOGY OF TITAN II AND MINUTEMAN

(SPARES PROVISIONING)

The historical chronology of the Titan II and Minuteman spares provisioning dates from 1 January 1961 to April 1963.

The Titan II chronology is an extract from the Logistics Management Institute Study, Initial Provisioning, 6 July 1962.

The Minuteman chronology is taken from the Ogden Air Materiel Area SM 80 Brochure, Joint Usage Concept Air Force Holding/Air Force Weapons Spares.

A primary purpose of this appendix is to provide an organized chronology of the two latest Inter-Continental Ballistic Missile Systems to facilitate comparison, review, consideration and possible action.

Titan II Chronology

27 April 1961 — AFLC/AFSC Agreement.

Established AFSC as responsible command for budget, funding and acquisition of initial spares.

9 June 1961 — FY 62 Program Guidance.

Established that Initial spares funds would be funded to AFLC.

26 June 1961 — Hq USAF Message AF MMP 79914.

AFLC was responsible for determination of requirement, budgeting, funding, and all other actions related to management of spares and spare parts in support of all weapon systems.

15 August 1961 — AFSC/AFLC Agreement.

Spare Parts support for the installation and checkout of ballistic missile sites is the responsibility of AFSC. Decision based on theory that Installation & Checkout is basically an extension of contractors' production line into the field and must be supported as part of the Ballistic Systems Division weapon system package. Need exists for either a joint command regulation or that AFLCM-3 be made a joint manual to clearly depict the interrelationship in the provisioning of spares and AGE.

21 August 1961 — Intercommand letter, BSTM to Ballistic Systems Division (BSM).

Titan II pre-operational spare parts support during activation proposes AFLC cover all spares requirements.

2 September 1961 — Interdivision letter, Ballistic Systems Division, subject: Identification and Procurement of Initial Spares.

The identification and procurement of initial spares in support of new weapon systems has been a continuing

problem in the Air Force for several years...(Contractor supports himself with spare parts during Installation & Checkout phase in accordance with AFBM Exhibit 59-11A.) Proposes elimination of dual funding, thus effectively combining the Air Force Holding and Air Force Weapons Accounts. Estimates savings 10 to 20 million dollars.

5 September 1961 — Interdivision letter, Ballistic Systems Division to BSTA. Subject: Titan II Pre-Operational Spares Parts Support During Activation.

Rejects 21 August letter proposal. Reaffirms that Installation & Checkout is contractor responsibility, an extension of production line. Estimates no savings will accrue as a result of the proposal.

15 September 1961 — Interdivision letter-Ballitsic Systems Division to BSM, subject: Proposal to Consolidate Pre-Operational and Operational Spare Parts for Titan II Program Support References 21 Aug letter and 5 Sept Reply

Does not agree with interdivision letter 5 Sept 61, rejection of 21 Aug 61 proposal. Proposes study by Ballistic Systems Division and San Bernardino Air Materiel Area be conducted.

20 September 1961 — Hq USAF Ballistic Missiles Program Review Meeting.

Hq USAF Materiel representative---Final decision had not been reached at USAF regarding the assignment of Program Management for Spares---.

22 September 1961 — Interdivision letter, Ballistic Systems Division to BSTA, Deputy for Titan. Subject: Proposal to Consolidate Installation & Checkout Production Line Support Material and Operational Spare Parts for Titan II Program Support.

Supports Air Force Holding and Air Force Weapons Accounts.

10 October 1961 — AFSC/AFLC Agreement.

Installation and Checkout spares are an AFSC responsibility.

.Ballistic Systems Division and contractors will predict as early as possible and update periodically those Installation & Checkout spares which will be made available to AFLC to be used to support operational requirements.

.Installation & Checkout Spares residue lists will be provided to AFLC so that required assets can be picked up to support operations requirements.

31 October 1961 — AFSC/AFLC Clarification of Policy.

AFLC is responsible for management of the Air Force Spares program including budgeting, funding, procuring and inventory control of all items introduced into the Air Force inventory required to support operational aerospace systems, subsystems and components.

.AFSC is responsible for systems acquisition which includes budgeting, funding and procuring material for the Development, Test and Evaluation and the surveillance of the contractors' management of in-production material furnished by the contractor as a part of the production contract to facilitate installation and checkout.

28 November 1961 — Hq USAF letter AFSDC, subject: Air Force Spares Management.

Announces USAF bases policy which was the same as that arrived at in the 31 Oct 61 Air Force Logistics Command/Air Force Systems Command Meeting.

8 January 1962 — Hq USAF letter, AFSSS, subject: Air Force Spares Management.

Air Force Logistics Command will compute operational requirements and then through normal liaision with the System Program Office assure requirements are met by delivery of production stock excess to the production effort.

30 January 1962 — Martin-Denver letter to Commander San Bernardino Air Materiel Area and Hq Ballistic Systems Division (BSTO) subject: Proposed System for Spare Parts Support on Concurrency-Type Programs.

Prepared by Martin-Denver as a result of discussions with Generals Gerrity and Funk on 17 January 1962. Recommends combining spares required to support contractor's activity with requirements for Initial Operating Phase requirements.

.Recommends resident provisioning teams.

21 February 1962 — San Bernardino Air Materiel Area letter to Ballistic Systems Division (BST) subject: Availability of Installation & Checkout Assets Advises That FY 63/64 Buy Budget Cycle is Due in 60 days.

Titan I Installation & Checkout is scheduled for completion during the time period covered by the computation...I&C assets must be considered or Hq USAF advised that BSD is unable to provide data...

9 March 1962 — Ballistic Systems Division letter to Martin-Denver.

Resident Provisioning Teams concept accepted. Other recommendations are outside of USAF policy guidelines.

13 March 1962 — General Gerrity letter to General Schriever.

Advises General Schriever that resident provisioning team concept as proposed by Martin-Denver is acceptable.

18 April 1962 — AFLC/AFSC Spares Panel. Convened to finalize coordination of joint AFLC/AFSC regulations, Management of Contractors' In-Production Support Material and Proposed Statement of Work for Contractor's Material Support of System Site Activation.

A work statement tailored to meet the special conditions of the Titan II Spares Selection/Procurement procedures is to be prepared by the Ballistic Systems Division (BSCCS) for the Titan II site activation program. This work statement includes--- timely identification and forecasting of excess and

residual site activation support material for application against operational requirements.

23 May 1962

San Bernardino AMA (SBNDCB) letter to Ballistic Systems Division, subject: Availability of Operational Support of Installation & Checkout Assets.

...USAF was established at Martin-Denver on 2 April 1962. Since that date Air Force Logistics Command has been unable to secure from AFSC/BSD a single commitment to apply to Installations & Checkout spares operational requirements. If such commitments are not forthcoming, the result will be a total procurement by AFSC/AFLC in excess of program requirements.

29 June 1962

Air Force Systems Command Regulation 400-2, Air Force Logistics Command Regulation 400-16, Management of Contractor In-Production Support Materiel.

Establishes policies, prescribes procedures and assigns responsibilities for the acquisition, control, utilization and disposition of in-production support, material by contractors during the systems acquisition phase.

28 September 1962

AFSCR 400-3/AFLCR 400-19. Joint Use of Contractors' In-Production Support Material and Operational Support Spares in Selected Missile Program.

This regulation establishes policies, prescribes procedures, and assigns responsibilities for command joint use of contractors' in-production support materials, Cost Category IR and IIR (recoverable) spares and initial operational spares which have been or will be procured in support of the Titan II and Minuteman weapon systems and other selected systems.

Minuteman Chronology

August 1961

Joint Air Force Holding/Air Force Weapons Concept Initiated. Representatives from Ogden Air Materiel Area, Air Force Ballistic Systems Division and Strategic Air Command met to prepare the Memorandum of Agreement Concerning Air Force Holding/Air Force Weapons Supply for Activation of Minuteman Operational Sites and the Vandenberg Program (STP Cat II, Cat III, ORT).

The purpose of this Memorandum was to specify the agreements reached 11-12 January 1961, the Ballistic Systems Division, Ogden Air Materiel Area and Strategic Air Command during a provisioning conference held at Torrance, California. It further provided direction to the contractors and agencies which would participate in spare parts support at Vandenberg Air Force Base and operational sites and involved the interchange of items between the contractor's Air Force Holding Account and the using activities' Air Force Weapons Account. This agreement was the first attempt to eliminate duplicate procurement within AFW and AFH on a controlled basis, yet provide a Management technique that would permit joint support for Acquisition and Checkout and operational requirements during the time period the contractor was located at the missile site.

October 1961

First Provisioning Conference at North American Autonetics.

First formal spares parts provisioning conference was held at North American Autonetics. During this conference, the concept of joint utilization was followed and initial buys of operational assets was made in accordance with Memorandum of Agreement initiated in August 1961. Subsequent actions (outlined below) resulted in modifying this approach so that operational buys were adjusted to include consideration of Acquisition and Checkout assets.

November 1961 — General Bradley's letter establishing command responsibilities, subject: Air Force Spares Management, dated 29 November, was submitted.

The letter delineated Air Force Logistics Command and Air Force Systems Command responsibilities in the management of Air Force spares. This letter further stated that material not required by the contractor for site activation would be recycled back into production. Assets no longer required would then be reported to AFLC for consideration in operational support. This letter, which was signed by Lt General Mark E. Bradley, further established the requirement for AFSC and AFLC to form a spares panel to jointly develop procedures and regulations to implement the intent of the 29 November 1961 letter. AFSW was charged with the responsibility of developing the contractual language necessary to implement the resultant procedures.

December 1961 — First Provisioning Conference at Boeing Company.

As a result of the action outlined above, procurement made as a result of this conference did not take Acquisition & Checkout assets into consideration.

December 1961 — Concept of Production Feedback Invalidates Initial Joint Usage Concept.

Letter from Ballistic Systems Division, subject: Agreement for Joint Usage of Air Force Holding/Air Force Weapons Assets during Activation of Operational Sites and Vandenberg Air Force Base Programs. This letter references an Ogden Air Materiel Area letter, 17 November 1961, Memorandum of Agreement, The Joint AFSC/AFLC Initial Spares Panel Meeting held 10-11 October 1961, and of a United States Air Force/Air Force Logistics Command/Air Force Systems Command/Strategic Air Command/Air Training Command meeting held at San Bernardino AMA on 19-20 September 1961, all of which involved discussions of utilization of Acquisition & Checkout spares in support of operational requirements. The specific purpose of this letter was primarily to reiterate the AFSC

policy which stated the contractor would retain in-production assets as long as he had a valid requirement and recommended that Ogden Air Materiel Area amend the SM 80 provisioning criteria to exclude the Installation & Checkout in-production assets from the initial operational support requirements until physical transfer occurs. Based upon this policy, Air Force Ballistic Systems Division recommended the 21 August 1961 Memorandum of Agreement be rescinded.

June 1962

Joint Air Force Systems Command/Air Force Logistics Command Regulation 400-2/400-16 Published.

OOAMA participated with Air Force Ballistic Systems Division in the development of the Joint Regulation AFSCR 400-2/AFLCR 400-16, Management of Contractors' In-Production Support Materiel. Assistance by OOAMA also included the preparation of the contractual statement of work to implement the joint regulation. This joint regulation is published and establishes a policy governing site activation tasks. The regulation specifies that Acquisition and Checkout spares will be provided by advancing delivery of production item. Procurement of Acquisition and Checkout spares was prohibited by this regulation.

July 1962

Acquisition and Checkout Contract Let Without Incorporation of AFSCR 400-2/AFLCR 400-16.

The Boeing Company Acquisition & Checkout contract was finalized as a Fixed Fee contract with an incentive clause. There was no specific spares line item established on the Acquisition and Checkout contract, consequently Ballistic Systems Division found it impossible to implement the policy established in AFLCR 400-16/AFSCR 400-2 into the contract. Under the terms of the Acquisition & Checkout contract, the contractor has the prerogative, as well as an incentive, to feed the Acquisition and Checkout spares back into production as a means of reducing target costs and increasing profit. However, the contractual requirement for feeding Acquisition & Checkout spares back into production and depending on Air Force Weapons support could not be negotiated. Based on this problem it became necessary to attempt a new approach.

July 1962

Logistics Management Institute representative commenced Minuteman study.

Logistics Management Institute (LMI) representative, Mr. Norman Parsons, was authorized to review the management concepts and techniques being applied to the Minuteman Weapon System. Ogden Air Materiel Area/Air Force Logistics Command and Air Force Ballistic Systems Division personnel accompanied Mr. Parsons on the following initial visits:

30-31 July 1962	The Boeing Company
1-3 August 1962	Space Technology Laboratories/ Air Force Ballistic Systems Division
6 August 1962	North American Autonetics
7-8 August 1962	Malmstrom AFB, Montana
10 August 1962	The Boeing Company

The Memorandum of Understanding Concerning Air Force Holding/Air Force Weapons Supply Accounts for Activation of Minuteman Operational Sites and the Vandenberg Program, was signed by representatives from Strategic Air Command, Ballistic Systems Division, Ogden Air Materiel Area and the Boeing Company. This Memorandum of Understanding established a procedure to transfer assets between Air Force Holding and Air Force Weapons Accounts to fulfill Not Operational Ready and work-stoppage requirements.

August 1962

Generals Bradley and Schriever letter on Joint Usage.

General B.A. Schriever, Air Force Systems Command, and General Mark E. Bradley, Air Force Logistics Command, signed letter, subject: Joint Usage of Installations & Checkout/Acquisition & Checkout and Operational Spares (Titan II and Minuteman Programs.) This letter contained an unnumbered publication (AFSCR 400-3/ AFLCR 400-19) and directed joint usage of Cost Category I and IIR spares to support the site activation tasks and the initial operational requirements.[1] This letter further specified that Air Force Logistics Command assets when establishing

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[1]Appendix C, p. 62, this thesis.

initial spares quantities. This was the first time specific direction was given to Air Force Logistics Command to consider Acquisition & Checkout assets as firm for support purposes. The regulation also specified that Air Force Logistics Command would consider Air Force Systems Command Acquisition & Checkout items as firm assets for support of operational forces regardless of availability date.

September 1962

Joint Air Force Systems Command/Air Force Logistics Command Regulation 400-3/400-19 Published.

AFSCR 400-3/AFLCR 400-19, Joint Regulation - Joint Use of Contractors' In-Production Support Materiels and Operational Support Spares in Selected Missile Programs, was signed and published.

October 1962

Logistics Management Institute Study completed and recommendations submitted.

As a result of the LMI Study and recommendations a special task group, co-chaired by Colonel John Chandler and Mr. Van Leeuwen, and representatives from Air Force Ballistic Systems Division, Ogden Air Materiel Area, The Boeing Company and North American Autonetics met to discuss the most practical and expeditious method of implementing both the joint usage concepts and the timely establishment of resident support teams. During the meeting, it was determined that special task study groups be established to: (1) Review, Analyze and recommend the best method to provide spares support for the Acquisition & Checkout and initial operational period; (2) Review, recommend and analyze potential joint use of equipment and (3) facilities. The spares study groups visited OOAMA, The Boeing Company, North American Autonetics and Air Force Ballistic Systems Division while the equipment/facility study group visited the Boeing Company, Air Force Ballistic Systems Division and Strategic Air Command to accomplish their reviews.

November 1962

Working group established and procedures developed.

The task groups reconvened to review the results of the study groups' efforts. The equipment/facilities

group was given firm approval for the methods and plans utilized and were advised to continue their efforts. The spares study group had discovered a deviation of maintenance concepts in the selection of spares range necessary to the support of Acquisition & Checkout requirements, as opposed to operational support. Tentative approval was also obtained to provide support to both programs using ARLS and the Air Force Weapons Account. However, this was reversed as Air Force Systems Command had advised Air Force Ballistic Systems Division not to relinquish control of the Air Force Holding assets necessary to the Acquisition & Checkout effort. The plan to downstream Air Force Holding assets was approved. However, a joint Air Force Ballistic Systems Division/Ogden Air Materiel Area/Contractor Review was required to realign asset requirements to provide maximum support to both Acquisition & Checkout and initial operations.

November 1962

Air Force Logistics Command, Supply letter, subject: Joint Utilization of Contractors' In-Production Support Material and Operational Support Spares in Selected Missile Programs.

This letter instructed Ogden Air Materiel Area to advise Air Force Ballistic Systems Division of the Minuteman operational requirements, with the stipulation that procurement release is contingent upon the nonavailability of Air Force Holding assets, plus the use of the delayed procurement concept for certain items, in order to take advantage of any Acquiistion & Checkout asset that becomes available. Ogden Air Materiel Area established temporary resident provisioning teams at The Boeing Company and North American Autonetics to accomplish initial actions relative to identifying and data collection of items selected for joing use where there is no conflict of maintenance philosophy.

December 1962

Last Provisioning Conference involving Joint Usage Spares.

This conference was held at The Boeing Company in December 1962. Action was taken to withhold all procurement orders generated at this conference pending finalization of joint usage decisions. Items were released only after completion of master worksheets indicating the over-all asset and requirement position as a basis for final procurement decisions.

December 1962

Final Management Techniques Approved by Generals McNickle and Leonard.

Representatives from Ogden Air Materiel Area, Air Force Ballistic Systems Division and The Boeing Company, met in Seattle to review the progress of initial efforts relative to joint spares utilization. A schedule of events was developed which indicated dates and actions required to fully implement the resident provisioning team and joint usage provisioning and downstreaming techniques.

.Meeting was held at Air Force Logistics Command between Major General McNickle and Brig. General Leonard relative to joint AFSCR 400-3/AFLCR 400-19.[2] Management techniques involving account procedures that had been held in abeyance since 16 November 1962 were resolved.

January 1963

Team Established and Worksheets Initiated.

The permanent resident support teams were established at The Boeing Company and North American Autonetics along with supplemental personnel assigned to accomplish downstream planning activity for the selected joint use items.

.Personnel from Air Force Logistics Command, Air Force Systems Command, Ogden Air Materiel Area, Air Force Ballistic Systems Division and The Boeing Company met to discuss and finalize operating instructions for the team and to develop a spares joint use management agreement. It was determined the management agreement would suffice between 7 January and 28 February 1963, at which time Air Force Ballistic Systems Division must provide the contractor with complete contractual coverage.

January 1963

Ogden Air Materiel Area Concern over Lack of Specific Contract Coverage.

OOAMA forwarded message OOG 10015 to AFBSD (BSQ) referencing the 7-9 January 1963 meeting at The Boeing Company. This message expressed concern over

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[2]Appendix E, p. 63.

the Air Force Logistics Command Support posture and reiterated the need for contractual coverage by 1 March 1963 for both The Boeing Company and North American Autonetics.

February 1963 — Additional Guidelines and Instructions Received from Air Force Logistics Command.

AFLC message MCS-15604, was received and indicated that the agreement between General McNickle and General Leonard did not authorize deviations from AFSCR 400-3/AFLCR 400-19.[3] However, consideration was given certain peculiarities: Air Training Command assets are not to be included in joint usage; however, van loading assets would be included.

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[3]Appendix E, p. 63.

APPENDIX C

C O P Y

HEADQUARTERS
AIR FORCE LOGISTICS COMMAND
United States Air Force
Wright-Patterson Air Force Base, Ohio

REPLY TO
ATTN OF: MCS

27 September 1962

SUBJECT: New Coding Criteria Applying to the SM-80 (Minuteman)

TO:

WRAMA	ROAMA	MAAMA	SAAMA	OOAMA	DESC
OCAMA	MOAMA	SMAMA	SBAMA	2709 VCG	WPAFB (EWBE)

1. OOAMA as the SSM for the SM-80 (Minuteman) has been granted authority to apply management code "AH" (irrespective of property class) to all peculiar components and M&O parts currently being introduced in support of FSG 14 and FSC 4935 end items. This includes those items currently being provisioned, those that have previously been identified and those resulting from design changes.

2. This policy change does not apply to functions in cataloging and identification now being accomplished on an FSC basis including characteristics and I&S screening. Existing procedures will be complied with prior to applying the "AH" management code.

3. This is an authorized deviation in present provisions of AFLCR 400-1.

FOR THE COMMANDER

RALPH C. ROCKWOOD
Brig General, USAF
Deputy for Supply Systems
Directorate of Supply

APPENDIX D

SUMMATION OF REPLIES AND CONSOLIDATION OF REPLIES TO THESIS QUESTIONNAIRES

The summary thesis questionnaire presents the researcher's summary interpretation of the responses received to each question. Extracts and quotes were liberally borrowed from the detailed replies of the respondents. No credit lines are attached due to the controversial nature of some of the replies. Twenty-seven questionnaires were mailed, 13 replies received.

The consolidated thesis questionnaire provides all replies to each question in numerical sequence. The replies are identified by code numbers 1 through 13. The code numbers identify the respondent to the author. In the instances when respondents did not reply to specific questions, the code respondent number is omitted.

The following respondents were selected as key personnel with considerable knowledge in the problem areas of the thesis:

Col Robert W. Cochran-Chief, Titan Div., Dir of Proc & Pdn
Lt Col C.I. Williams-Cataloging (MCSI), AFLC
Lt Col Theodore O. Wright-Chief, Ground Systems Sec-Dev Br. BSTRG/AFSC
Lt Col Carl W. Longren-Chief, Logs Office, Dept for Titan, BSD/AFSC
Mr. J.R. Cassidy-Chief, Supply Support, Minuteman Logistics, North American Autonetics
Mr. Ward E. Parsons-Spares Mgr, Aerospace Div-The Boeing Company
Mr. Tom Steel-Mgmt and Procedures, San Bernardino AMA
Mr. Forrest E. Waller-Dep Chief Materiel Div-Technical Rqmts and Standards Office, BSD/AFSC
Mr. H. J. Rureska, (BSOCS), BSD/AFSC
Mr. John England-(SCMMS), AFSC
Mr. W.D. Griffith, Provisioning, (MCSP) AFLC
Unsigned (2)

SUMMARY TO THESIS QUESTIONNAIRE

A brief summarization of replies is provided. Quotes are liberally used but respondents are not identified due to the controversial nature of some of the replies.

RESEARCH PROJECT QUESTIONNAIRE

PROBLEM - Are spares provisioned for ICBM systems efficiently and economically? Are there unnecessary duplications in organizations, contracting, exhibits, management, documentation?

1. Do you believe the separate exhibits submitted by BSD for the Installation Checkout and Assembly Checkout phase is compatible with the exhibit MCP 71-673 submitted by AFLC for the Initial Operating Phase? Do you have any recommendations for improvement?
i.e., (a) modification of one or both documents, or
7 (b) single document, or
3 (c) Do you believe the present practice is most desirable?
3 (d) Other

Seven of the 13 respondents to question 1 were of the opinion that a single exhibit is applicable to acquisition spares and operating spares. Three of the 6 replies were satisfied with the present procedures, that is separate exhibits for the acquisition phase and operating phase spares. The remaining three replies had preferences other than the choices listed in the question. One respondent recommended separate documents and procedures for (1) Aeronautical Systems, (2) Missile Systems and (3) Electronic Systems.

8 2. (a) Do present procedures cause duplication of documentation?

Yes 10 No 3

(b) If so, which documents are duplicated?

Present procedures cause duplication of documents is the opinion recorded on 10 questionnaires. The following quote approximately summaries the "yes" reply as to which documents are duplicated:

"The following items came immediately to mind: Data for Production; Provisioning Parts Breakdown; Illustrated Parts Breakdown; Engineering data; and Reprocurement Data are essentially the same but are bought separately." Both commands require that the contractor recommend spares for program support; each requiring a different format and amount of data to be furnished in support of these recommendations. In recognizing that a single document could have obtained the same results, it becomes apparent that duplication exists when spares recommendations are submitted to two separate commands for the same items of equipment. The exercising of other problem areas, preparation of Priced Exhibits, and correspondence also represents duplication.

(c) What is estimated cost of this duplication?

Duplication costs were stimated at $1.2 million at one contractor's facility and $5 million total per year for all contractors. Only 5 replies estimated costs of duplication.

8 3. (a) Is duplication of documents due to the manner in which the contract is written, or Yes 7 No 3 No comment 3

(b) Is it due to exhibit, manual, regulation or other procedural or policy requirement? Yes 7 No 3 No comment 3

All 7 who said "yes" to question 2(a) have agreed affirmatively to 3(a) and (b). "Duplication could be eliminated by consolidating requirements by contract, or if separate contracts are involved, contract language could be developed to encompass documentations furnished for other programs."

9 4. (a) Do you believe one contract should be written for ATC, BSD and AFLC requirements, rather than two or three contracts? Why? Use contract number and estimated costs for duplication, if any.

Yes 11 No 1 No Comment 1

A single contract is favored in 11 of 13 responses. Singe contracts are now in use at Boeing and Autonetics. One contractor believes this duplication problem has been resolved. The other cites an example of duplication under single contract in Exhibit D.

9 4. (b) Does present practice call for the use of more than one contract for basic similar requirements, i.e., ATC - training requirements, BSD - I&C and A&C/O requirements, and AFLC initial operating requirements?

Yes X No X Invalid

Single contracts have been used in the Minuteman program. For the Atlas and Titan, separate contracts were let for separate requirements.

(c) What justification is given for separate contracts - if they are used?

Justification for separate contracts was based on command managerial control for funding and procurement responsibility (AFSC/AFLC).

(d) Does the contractor have to provide separate drawings, specifications, etc., for each contract?

Yes 9 No 2 No Comment 2

The specifications contain words for the purpose of eliminating duplications; however, the interpretation varies across commands and the functional organizations within each command. It is pointed out in Question 4 of Appendix D that duplications exist on Task 7.3 when compared to the effort called for by Task 3.2.

4. (d) Continued:

Additional drawings were requested in support of Task 7.3 due to an interpretation of the specification. The regulations should be made clearer concerning this matter. There are other indications which suggest that duplication will exist in the drawing area as a result of the requirements for drawings being placed on follow-on contracts.

(e) Does the contractor have to compute requirements separately for each contract?

Yes 11 No 1 No Comment 1

The specifications do not require, in the case of follow-on contract, that the contractor compute requirements separately for each contract. However, a problem does exist in this area. There are two major problem areas; the first involves a duplication of effort that exists when the same type of equipment is called for in more than one task of the basic contract. This requires that the same inventory manager must review the contractor's recommendations, it would be desirable, through improved programming documents (Form 555), to have the contractor make one computation taking into consideration all applications of equipment for which the computation is being made. Again, the point must be made that every time the contractor generates a document due to the contract task or item arrangement, the Air Force must likewise handle this documentation on a task basis. The second problem, which is possibly more serious than the first, is in the fact that 90% of the contractor's recommendations are changed once they are

4. (e) Continued:

reviewed by the item managers. An aggressive effort has been made to improve the quality of the programming data being furnished by the Air Force Logistics Command (OOAMA) in order to improve the effectiveness of the contractor's requirements analysis. However, after two years of exercising this problem, the solution has still not been determined. In light of expenditures required by the contractor to perform this effort, it appears desirable to either delete this requirement from the specification or to provide the ground rules that would allow the contractor to be at a minimum 80% effective in his requirements computations. This problem is peculiar to AFLC and not to AFSC inasmuch as the computation requirements in the AFSC area are, for the most part, the responsibility of the contractor. Possibly no other area for which improvement is suggested could have the cost saving effect that changes to this area would bring about. If you consider that approximately 31,000 spares, computations were required on the initial procurement contract and that 90% of these were changed based on the inventory manager's computation, you then have an idea of the magnitude of this problem.

(f) If one contract was written for all requirements, would the obsolescence factor increase over that which would be encountered under separate contracts?

Yes 0 No 11 No Comment 2

Eleven of 13 agreed that the obsolescence factor would not increase if all requirements were placed on one contract.

12 5. (a) Are ND numbers now used for spares for tools? (FSC and manufacturing part number)?

Yes 6 No 4 No Comment 3

Although 4 of 13 respondents replied "no" to the question of ND numbers for spares for tools, ND numbers have, in fact, been approved for spares for tools as per Exhibit F.

(b) How many items are involved? Estimate.

Total line items involved for all ICBM systems is approximately 8000.

(c) Are they normally one time buy?

Yes 6 No 1 No Comment 6

Spares for tools are normally one time buy thus qualify for ND numbers under AFM 67-1, Vol. I, Part 1, Chapter 7.

(d) Is it more timely and economical (to ND) than complete cataloging?

Yes 8 No 0 No Comment 5

All respondents agree that assigning ND numbers for spares for tools is more economical, providing the items are one time buy.

12 6. What do you think about the possibility of having Resident Processing or Resident Support Teams assigning ND numbers (FSC and manufacturing part numbers) to Cat III peculiar items, with management control assigned to the prime IM of the weapon, i.e, SM 80 OOAMA, regardless of class responsibility? Comment please.

This question is ruled invalid due to content misinterpretations by the respondents and/or improper phrasing by the researcher. One respondent states this program was in effect for the Thor program across the board. The concept was later changed and cataloging was required for all items. Detailed replies in Appendix D.

15 7. **In view of the high costs for Guidance System spares, do you believe some organic capability should be developed at the site, bases or depots rather than to ship all guidance systems to Newark SRA regardless of complexity of task? Comment please.**

Yes 1 No 11 No Comment 1

Eleven of 12 negative answers reflected that organic capability for the maintenance and repair of guidance systems at site and bases were not economically feasible. The twelfth stated that the capability already existed and is being effectively utilized. The remaining gentleman qualified his answer, that is, yes providing, etc.

5 8. (a) Do you believe the present organizational arrangement for weapon systems management in the Air Force is the most efficient and economical?

Yes 2 No 11

Eleven out of 13 opined that the present organizational arrangement for weapon system management was not the most efficient and economical. Their views are contained in Exhibit D.

(b) Do you believe it would be practical to assign Weapon System Managers on a cradle to the grave concept, that is, from the birth of the weapon to the end of the program?

Yes 12 No 0 Undecided 1

i.e., the Weapon System Manager would be the focal point for all programming, budgeting, logistical support, operations and training for his weapon. A managerial concept similar to the "Hitch" concept for costing weapon systems is suggested here. Please comment.

Twelve out of 13 believed the cradle to the grave concept for Weapon System Managers was practical. As one respondent stated, "Under the present policy the Weapon System Manager as such is a misnomer in that the weapon system in reality has many managers. This is evident by the many depots who have their own operating

8. (b) Continued:

policies and are not subject to control by a single agency. Today's Weapon System Manager has little control over timely establishment of requirements, budgets, assignment of Federal Stock Numbers, nor means of enforcing policies which are developed for the given weapon system." There are several differences of opinion regarding the organizational assignment of this "cradle to the grave" commander. The response to this question indicates dissatisfaction with the present organizational and functional arrangement. The respondents are aware that realignment of responsibilities at command level may be involved. These very interesting comments are detailed in Exhibit D.

9. Do you believe the Resident Processing Team - Resident Support Team concept is equally effective regardless of type of contract?

Yes 9 No 1

i.e., Comment on (a) Cost plus fixed fee
(b) Fixed price incentive with reset

The consensus of opinion by 9 to 1 indicated that the resident processing team could operate just as effectively regardless of type of contract, such as, cost plus fixed fee or fixed price incentive. Aptly summarized by one respondent. "The type of contract is not the controlling factor in effectiveness so much as the particular provisioning exhibit, the content of the contract and the skill of the provisioners."

10. What do you consider to be the greatest weakness in present provisioning practices?

Two items are selected to summarize the greatest wekness in present provisioning practices: (1) "The greatest weakness in present provisioning

10. Continued:

practices, in our opinion is the extensive documentation flow time prior to placement of procurement. Also, too much provisioning data is generated on nonmaintenance significant items causing the significant maintenance items to be buried within the mass of documentation. Provisioning systems should be tailored to highlight only those items which are significant to maintenance of the weapon system." "Another serious weakness under present day provisioning practices is the single lack of an AFLC manager responsible for development, implementation and enforcement of provisioning policies for a given weapon system management, one managed from concept to phase-out, by a single command, a single manager."

11. Many item numbers entered the cataloging system based on quick-look decisions. On second look a no requirement determination was made. Would assignment of ND numbers on quick-look resolve the problem of unnecessary cataloging?

Yes 3 No 8

Eight of 11 say no to ND numbers for the quick-look phase. "The resident provisioning team procedure coupled with characteristic screening by the IM reduces unnecessary cataloging of items to a minimum. ND number assignments should be confined to weapons peculiar items." "An item based on a quick-look decision is the result of inadequate or no research effort."

CONSOLIDATION OF REPLIES
TO
RESEARCH PROJECT QUESTIONNAIRE

PROBLEM - Are spares provisioned for ICBM systems efficiently and economically? Are there unnecessary duplications in organizations, contracting, exhibits, management, documentation?

1. Do you believe the separate exhibits submitted by BSD for the Installation Checkout and Assembly Check out phase is compatible with the exhibit MCP 71-673 submitted by AFLC for the Initial Operating Phase? Do you have any recommendations for improvement?
   i.e., (a) modification of one or both documents, or
   (b) single document, or
   (c) Do you believe the present practice is most desirable?
   (d) Others

RESPONDENT 1 -

The major problem concerning compatibility of the two provisioning specifications is in the area of economics. No significant problems have been observed from a weapon system support standpoint due to differences in the provisioning specifications. The joint utilization concept was recommended as a solution to an existing economics problem resulting from the incompatibility of these two specifications. The implementation of the two specifications without application of the joint utilization concept would have resulted in excess spares upon completion of the activation phase of the program and a possible waste of provisioning dollars. This concept places emphasis on saving provisioning hardware dollars and has very little effect on minimizing costs in the area of provisioning documentation. Further improvement could be made in the area of reduced provisioning cost; however, it would involve a change in the AFSC and AFLC missions during the activation phase of the weapon system. The following is a recommendation of how provisioning costs could be reduced:

.There are two basic schools of thought and both have merit in reducing provisioning costs. One would have the Air Force Systems Command managing joint usage spares until Wing turnover, and the other would give the weapon systems support responsibility to AFLC from cradle to grave. It may also be significant to mention that there is a third possibility which would involve AFSC funding and AFLC management. Regardless of which method of operation is selected, the primary objective should be a single acquisition and management policy for the procurement of spares. It is apparent that the Air Force Systems Command is not staffed with adequate personnel in order to manage in detail the procurement of weapon system spares. In addition, AFSC has not established the finite controls that currently exist in AFLC. It is apparent that the AFSC provisioning policies are inadequate for complete weapon system provisioning; however, it is also questionable as

to whether the degree of control that exists in AFLC is necessary. An attempt should be made to compromise these differences under a single program management approach.

.A considerable amount of flexibility exists in the AFSC acquisition and management policies which contributes to the timely support of a weapon system. These policies, however, could not be used for effective integration of AFSC procurement into the AFLC system. One of the major problem areas is the requirement for cataloging which involves the assignment of NC numbers and characteristic screening in order to control the number of items entering the Air Force inventory. The Materiel Identification New Item Control Techniques (MINT) program could not be effectively implemented within the AFSC acquisition policies. Basically, what is being pointed out here is that the AFLC thoroughness, coupled with the AFSC simplicity, if effectively integrated into a single acquisition/management program, would result in additional savings in the provisioning hardware and documentation costs. Time does not permit a full explanation of all the problem areas that exist and the benefits that can be derived from a single program management approach; however, if you find that you are interested in pursuing this in more detail, further arrangements can be made to provide you with detailed information.

.It should be apparent that a single provisioning document is recommended, providing proper decisions can be made in regard to command responsibilities for acquisition and management of the program. Taking all elements into consideration, and recognizing that some significant changes would be in order in regard to acquisition and management policies, AFLC appears to be the logical candidate for this assignment. The answers to other questions within the Research Project Questionnaire will amplify this point.

RESPONDENT 2 - QUESTION 1

The provisioning exhibits submitted by BSD for the installation checkout and assembly phase of the Minuteman program are not compatible with the AFLC exhibit MCP 71-673. The present practice of separate specifications is considered desirable and the two specifications governing these programs should not be married into a single document. The A&C/O exhibits were primarily designed to allow an installation contractor sufficient flexibility and latitude to accomplish the task of installing the weapon system without burdening him with complex logistics provisioning and management techniques which are commonly associated with AFLC provisioning practices. Since the contractor is generally charged with the responsibility of determining his own spares support program for the A&C/O phase and is also charged with the responsibility of inventory control and accountability and since such A&C/O assets do not normally become part of the AFLC logistics system until subsequent to the end of the installation phase of the program, it is therefore not necessary to get involved with MCP 71-673 type of provisioning procedures.

RESPONDENT 3 - QUESTION 1

Separate exhibits submitted by BSD for Installation Checkout and Assembly Checkout are not compatible with MCP 71-673.

.Recommendation: The present practice is certainly not the most desirable. Nor is it likely that a single document will be adequate to the task. There should be separate documents and procedures for three types of systems: (1) Aeronautical Systems, (2) Missile Systems, and (3) Electronic Systems. These three types of systems each present peculiar characteristics, peculiar requirements and have somewhat peculiar historical developments in terms of procedures, policies and practices. While there is considerable overlap (i.e., common characteristics) the peculiarities are such that any one approach and philosophy is not feasible or applicable for all systems.

RESPONDENT 4 - QUESTION 1

Spare parts for ICBM systems are provisioned efficiently but not entirely economically. Provisioning spare parts on a production list format necessitates incremental provisioning procedures to be implemented which requires the establishment of a computed requirement for spare parts on each appearance based on either operational hours or a condemnation factor which can result in duplication of procurement or an over buy.

.Separate exhibits submitted by BSD for the Installation Checkout and Assembly Checkout phase is not compatible with the exhibit MCP 71-673 but applies to WDT 57-2 and 2A.

.Recommendation for improvement would necessitate standardizing the documentation in accordance with one specification governing spare parts provisioning documents for Operational Capacity (OC) Force applying to all ICBM's. The present practice is not the most desirable due to the different forms of documentation being submitted and the numerous deviations granted in waivering the specification.

RESPONDENT 5 - QUESTION 1

(a) No.

(b) A single document with standard operating procedures across the board.

(c) In the present practice contractors have a blank check to support themselves with no significant AF surveillance during the I&C phase. This has resulted in many millions of dollars excess at the completion of I&C. Implementation of Joint Usage under AFLCR 400-19/AFSCR 400-3 will eliminate

RESPONDENT 5 - QUESTION 1 - Continued:

excess in Cat I and IIR, however, it is believed that the AF should also maintain a control over the Cat III bit and piece support.

(d) Possibly documentation is provided under MCP 71-673 for the whole concept of BSD, I&C, Operational, etc., would provide the control required.

RESPONDENT 6 - QUESTION 1

The Air Force needs a single document but not MCP 71-673 for the initial provisioning of spares. The responsible command for fielding Weapon Systems should have a capability to program, budget, and buy all initial equipment including the initial operational spares for any system being brought into the inventory. AFLC spares procured should be phased into the program so that standard operational support would be effective at the 1st spares re-order point. The problems in a concurrent program are that the configuration is changing at a most rapid rate, and there are no usable data available when the 1st spares orders must be placed to provide initial operational support. Therefore, any initial support provisioned and procured using the procedures of MCP 71-673 means that these procurements and all cataloging and data in their support are made by pure guess work.

.The present practice of trying to provide initial operational spares through AFLC is the least desirable approach except as modified in the Titan II where selected Cat I and Cat II spares are provided from the I&C stocks.

RESPONDENT 7 - QUESTION 1

No. Little or no spares documentation is submitted to BSD by the contractor during the I&C/A&CO phase under existing procedures, whereas AFPI 71-673 (formerly MCP 71-673) requires a considerable volume of spares documentation and technical data to be provided. Some early ICBM contracts required MCPT Exhibit 55-25 documentation but contracts let for Titan II and subsequent systems have not contained this coverage. I believe that spares provisioning documentation/procedures would be greatly enhanced by the development of a single spares documentation exhibit which would initially document spares data during I&C/A&CO and update to final operational program documentation configuration for cataloging, identification, provisioning, etc., actions required to field and maintain a sophisticated weapon system.

RESPONDENT 8 - QUESTION 1

(c) Note - Contractors are required to support themselves during the I&C and A&CO; therefore, the sophisticated provisioning procedures (71-673) employed by AFLC SSM/IMs are not suitable or desirable for use by contractors to acquire spares needed to perform I&C/A&CO tasks.

RESPONDENT 9 - QUESTION 1

Conflict in exhibits does not appear to be a problem since I&C and A&CO support is not governed by exhibit but is bulk priced and responsibility of I&C contractor. Improvement could be realized by combining I&C and initial operational support into a single stock and establishing reorder points and initial operational stock levels to be implemented by I&C contractor for turnover of records, spares, and warehouse at completion of I&C. Results are: no residual I&C supplies and an automatic setting up of warehouse for using command.

RESPONDENT 10 - QUESTION 1

No. Very little spares documentation is submitted to BSD by a missile site contractor during the I&C or A&CO Phase of site activation. Existing procedures in MCP 71-673 require that spares documentation be provided. Early missile contracts required documented exhibits. The Titan II contract does not demand this coverage.

RESPONDENT 11 - QUESTION 1

a. This multiple question is a real "door-opener" for recommendations.

The contractor spare parts used for support of installation and checkout (I&C) during BSD acquisition of a weapon system and the spare parts provisioned by AFLC for support of the operational phase is a primary area for improvement. I think the major deficiencies can be identified from my recommendations:

(1) One command, (AFSC or AFLC) should be responsible for pre-operational and initial operational spare parts.

(2) One "package" of spare parts should support I&C as well as initial requirements of the using command.

(3) One contract should acquire all spare parts.

(4) One exhibit should be developed for basic economics, to maintain concurrency in spares support, and to use abbreviated/simplified management requirements during the early (contractor) support phase.

(5) The "Single Management Concept" should be used in spares support until "transition" to standard policies/practices, which should occur after the using command has accepted the weapon system.

RESPONDENT 12 - QUESTION 1

Comment regarding the stated problem:

.One could effectively debate the pros and cons on the methods and techniques used to provision ICBM Systems. There are many program and mission variables which should be fully exploited before a specific yes and no answer is given to such a broad question. Most logisticians would agree that, if provisioning for initial spares could be delayed until we had reached the ultimate in design stability and operational integrity of a weapon system, we could then move in and accomplish initial provisioning without the worry of obsolescence occurring from design changes or changes being made to the operational requirement. You could also ascertain and maintain a high degree of compatibility between your logistics skills requirements and training requirements. But when you look at the other side of the coin and consider the national defense posture and the established goals for building a strong ICBM deterrent, who is to say whether or not that spares for ICBM have or have not been accomplished efficiently and economically.

Reference is made to question 1:

.Obviously from the stated question there is a lack of understanding regarding how ICBM installation and checkout tasks are supported versus accomplishment of initial provisioning for support of an ICBM operational program. The question as stated is not relevant to your desired objective. There is no comparison of the exhibits BSD uses for Contractors support and MCP 71-673 as used in accomplishing initial provisioning. It is believed that the intent of your question is to get a comparison between AFLC WDT Exhibit 57-2A and their MCP 71-673 Provisioning document. If this be the case, you will find a considerable amount of commonality between the two documents. In fact, if time would permit you could search out and find that some of the latest requirements included in MCP 71-673 emanated from WDT Exhibit 57-2A.

.One of the basic differences between WDT 57-2A and MCP 71-673 is the EDPE input requirements for the ARLS support systems. The majority of these differences have subsequently been included in a supplement to MCP 71-673.

.Taking a real objective look at the over-all provisioning area, the provisioning documentation requirements are more than adequately covered. Therefore, the effectiveness and accuracy of provisioning rest with the System Support Manager and the Provisioning Team actively engaged in selecting items and establishing quantities therefore. Since initial provisioning actions becomes the backbone of spares support during the initial introduction of a weapon system into the Air Force inventory, it is considered that the most qualified supply and maintenance technicians should be assigned to accomplish this important effort.

RESPONDENT 13 - QUESTION 1

No, they are not compatible with MCP 71-673. It must be remembered, however, that 71-673 was not used on the ICBM contracts for operational spare parts. WDT 57-2 and 57-2A which were developed by SBAMA and BSD specifically for use on ballistic missiles were used in lieu of 71-673. I do not consider the present system to be desirable because it places both the AFSC and AFLC in the logistics business. I feel that AFLC should be responsible for both I&C and operational support. The I&C phase to be contractor support with no duplication of existing repair capabilities or assets. This does not represent an official AFLC position.

.Also, I believe that 71-673 would adequately provide for the provisioning of ballistic missile systems at reduced costs for documentation and data since it provides for progressive provisioning actions which would serve the requirement just as well, if not better, than the incremental provisioning that was accomplished.

2. (a) Do present procedures cause duplication of documentation?

(b) If so, which documents are duplicated?

(c) What is estimated cost of this duplication?

RESPONDENT 1 - QUESTION 2

(a) Although the quantity of documentation and information required by each command is not the same, it can be safely said that the documentation is a 90% duplication. I am sure you realize that the paper cost is incidental when compared to the effort required to produce the documentation, and that it is this duplication of effort with which you should be concerned.

(b) Both commands require that the contractor recommend spares for program support; each requiring a different format and account of data to be furnished in support of these recommendations. In recognizing that a single document could have obtained the same results, it becomes apparent that duplication exists when spares recommendations are submitted to two separate commands for the same item of equipment. The exercising of other problem area, preparation of Priced Exhibits, and correspondence also represents duplication.

(c) The estimated cost of this duplication is approximately $1.2 million. This figure was arrived at by taking 90% of the AFSC provisioning costs on the initial production contract. This assumes, once again, that the 90% estimate is correct. The AFSC documentation costs were considerably less than the AFLC costs; however, the AFSC duplication

RESPONDENT 1 - QUESTION 2 - Continued:

appears to be the likely area for elimination. The estimated cost of duplication is therefore limited to this area. The duplication cost would be substantially higher if the same philosophy was applied to the AFLC costs.

RESPONDENT 2 - QUESTION 2

(a) No.

(b) Generally A&CO spares documentation consists only of a straight line listing of the spare parts provided to support the installation phase of the program.

(c) No answer.

RESPONDENT 3 - QUESTION 2

(a) Yes.

(b) The following items come immediately to mind: Data for Production; Provisioning Parts Breakdown; Illustrated Parts Breakdown; Production Data; Engineering Data; and Reprocurement Data are essentially the same but are bought separately.

(c) Duplication is estimated to cost $5 million per year.

RESPONDENT 4 - QUESTION 2

(a) Yes.

(b) PGAPL, DCN's, Production List, etc: This depends on the Missile being provisioned.

(c) No answer.

RESPONDENT 5 - QUESTION 2

(a) Yes.

(b) Duplication exists - In principal, but I don't have specific examples or estimated costs, e.g., Contractor Drawings for R&D, I&C vs Spec Drawings for operation usage. In provisioning spares for operational support, ATC, I&C, documentation provided under the terms of each contract would result in duplicate, P/L, Spare Parts Lists, exhibits, etc.

(c) No answer.

RESPONDENT 6 - QUESTION 2

(a) Yes.

(b) Spares Procurement Document Orders for I&C support and initial operational spares are duplicated. The contractor has to keep a dual set of books.

(c) $1.5 million.

RESPONDENT 7 - QUESTION 2

(a) Yes.

(b) Documentation is prepared and submitted to the Air Force under AFPI 71-673 for both ATC requirements and AFLC operational requirements. In addition, some documentation received by BSD on R&D contracts, while they may not be called the same name, constitute the same documentation as that received under AFPI 71-673.

(c) It is estimated that we are paying twice as much for this documentation as would be required under a procedure whereby everyone used a common, updated set of documents.

RESPONDENT 8 - QUESTION 2

(a) No.

(b) and (c) No answer.

RESPONDENT 9 - QUESTION 2

(a) No.

(b) and (c) No answer.

RESPONDENT 10 - QUESTION 2

(a) Yes.

(b) Documentation required under MCP 71-673 is duplicated.

(c) It is impossible to estimate the cost of duplication throughout the ICBM programs from this level.

RESPONDENT 11 - QUESTION 2

(a) Yes.

(b) Although direct duplication in document does not occur, there is a duplication in data in the form of records (contractor vs AF format).

(c) $2 million plus per weapon system.

RESPONDENT 12 - QUESTION 2

(a) Yes and No.

(b) Depends upon what is being considered, i.e., there are duplications in WDT 57-2A and MCP 71-673 because they are two separate provisioning documents. Do these documents create a duplication of management data? The answer is "yes." Why? Because there is no requirement or method for contractor's to establish a centralized management data system. The contractors' organizations are to design that different departments have requirements for identical data, i.e., configuration accounting, maintenance analysis, illustrated parts breakdown and provisioning parts breakdown.

(c) No cost data available.

RESPONDENT 13 - QUESTION 2

(a) Yes.

(b) The Provisioning Parts Breakdown (PPB) required by WDT 57-2 and 57-2A duplicate the Illustrated Parts Breakdown (IPB) . Under 71-673 the Group Assembly Parts List of the IPB is used for provisioning purposes.

(c) Unknown - costs for documentation are normally buried in the contractor's overhead or the cost of spare parts.

3. (a) Is duplication of documents due to the manner in which the contract is written, or

(b) Is it due to exhibit, manual, regulation or other procedural or policy requirement?

RESPONDENT 1 - QUESTION 3

(a) and (b) The manner in which the contract is written has a definite effect on the duplication inasmuch as separate items or tasks are contained in the contract, each containing separate provisioning specifications and funding arrangements. It is possible, regardless of the need for separate contract items, that the specifications could be written to preclude a substantial portion of the duplication. I am sure you are aware that regulations are the reason for the present contractual and specification arrangements and any change must start in this area.

RESPONDENT 3 - QUESTION 3

(a) and (b) Duplication is the result of both (a) and (b). The degree to which (a) and (b) applies depends to a large degree on the particular contract, exhibit and Weapon system.

RESPONDENT 5 - QUESTION 3

Duplication could be eliminated by consolidating requirements by contract, or if separate contracts are involved contract language could be developed to encompass documentation furnished for other programs.

RESPONDENT 6 - QUESTION 3

The duplication is primarily due to the requirements of the spares procurement exhibits and to confusion at the working level in unclear policy directions and procedures.

RESPONDENT 7 - QUESTION 3

It is my opinion that this duplication is not caused by either of the choices listed. The documentation requirements of a contract are a management prerogative of the organization involved. If OOAMA decides they cannot wait until AFLC documentation is available to establish ATC requirements, or if AFLC decides they cannot use documentation developed, earlier in the program for BSD or OOAMA ATC requirements, each establishes their own requirements and duplication, to varying degrees, results.

RESPONDENT 10 - QUESTION 3

(a) and (b) Examples given to reply to are questionable. The over-all problem appears to be due to management. Each responsible agency requires certain documentation. There is no single reason that can be given for required duplication of documents.

RESPONDENT 11 - QUESTION 3

It is many times due to AF requirements. (Manuals, regulations, specifications)

RESPONDENT 12 - QUESTION 3

It is due to numerous exhibits, manuals, regulations and other procedural and policy requirements.

RESPONDENT 13 - QUESTION 3

Due to the type of the contract provisioning appendix called out in the contract, i.e., WDT 57-2A or 71-673.

4. (a) Do you believe one contract should be written for ATC, BSD and AFLC requirements, rather than two or three contracts? Why? Use contract number and estimated costs for duplication, if any.

(b) Does present practice call for the use of more than one contract for basic similar requirements, i.e., ATC - training requirements, BSD - I&C and A&CO requirements, and AFLC initial operating requirements?

(c) What justification is given for separate contracts - if they are used?

(d) Does the contractor have to provide separate drawings, specifications, etc., for each contract?

(e) Does the contractor have to compute requirements separately for each contract?

(f) If one contract was written for all requirements, would the obsolescence factor increase over that which would be encountered under separate contracts?

RESPONDENT 1 - QUESTION 4

(a) Assuming that this question pertains to initial procurement, it appears that the present contractual arrangement which has ATC, BSD, and AFLC using the same contractual instrument is the most practical and economical from a contract administration standpoint. A definite problem which has a substantial effect on provisioning costs involves the number of provisioning tasks called for on the initial procurement contract. The Autonetics initial production contract AF04(647)-599 reflected 13 provisioning tasks, which are as follows:

Task 2.1	(AFLC)	Provisioning of depot tooling and test equipment (DTTE) for the Hill Specialized Repair Area (SRA).
Task 2.2	(AFLC)	Provisioning DTTE for the Heath SRA.
Task 2.3	(AFLC)	Provisioning of DTTE for the Hill Missile Assembly and Maintenance Shops.
Task 3.1	(AFLC)	Provisioning of operational airborne spares.
Task 3.2	(AFLC)	Provisioning spares for Hill SRA DTTE.
Task 3.4	(AFLC)	Provisioning of spares for the Heath SRA DTTE.
Task 3.5	(AFLC)	Provisioning of spares for the Hill DTTE Missile Assembly and Maintenance Shops.
Task 7.1	(ATC)	Training Hardware procurement.
Task 7.3	(AFLC)	Training spares.
Task 7.4	(AFLC)	Training peculiar spares.
Task 10	(AFSC)	Field and organizational airborne and AGE spares for the support of the preoperational activities (A&CO, in-house tests, etc.).
Task 15.2	(AFSC)	Provisioning of maintenance and overhaul parts for use in the Autonetics maintenance and repair areas in support of the preoperational program.

.Each of the tasks noted above requires that the contractor exercise the requirements of the provisioning specifications without regard to the same effort being performed for identical equipment on other provisioning tasks contained in the contract. To illustrate this point, Task 3.2 of the contract duplicated 100% of the effort called for under Task 7.3. This involved approximately $95,000 duplication of provisioning costs. Although it is recognized that fund appropriations have a direct

RESPONDENT 1 - QUESTION 4 - Continued:

effect on the method of contracting, it also appears that a substantial amount of dollars are expended in the documentation area due to this breakout. AFLC and BSD have been successful in reducing the number of tasks; however, further reduction is possible and would have a direct effect on the future cost savings in the documentation area. The important thing to remember here is that for each contract task requiring the submittal of documentation to the Air Force, the Air Force must likewise handle this documentation through its various functional agencies. Any duplication of cost reflected here from a contractor standpoint does not include the duplicative cost within the Air Force.

(b) As noted in the answers to Question 4a above, the present practice does allow for the use of one contract for all three commands. There are other support efforts which are contracted for independent of the basic contract. An example of this would be the training of Air Force personnel, which ATC contracts for independent of the basic contract, or contractor representative support, which is contracted for by the A&CO contractor directly with the associate weapon system contractors.

(c) This appears to be left to the discretion and interpretation of the regulations by the procurement personnel within the various commands. There are other situations, such as non-concurrent spares, which must be placed on a Kit Call-type or similar contract device even though the basic contract might still be in effect.

(d) The specifications contain words for the purpose of eliminating duplications; however, the interpretation varies across commands and the functional organizations within each command. It was pointed out in Question 4a that duplications exist in Task 7.3 when compared to the effort called for by Task 3.2. Additional drawings were requested in support of Task 7.3 due to an interpretation of the specification. The regulations should be made clearer concerning this matter. There are other indications which suggest that duplication will exist in the drawing area as a result of the requirements for drawings being placed on follow-on contracts.

(e) The specifications doe not require, in the case of follow-on contract, that the contractor compute requirements separately for each contract. However, a problem does exist in this area. There are two major problem areas; the first involves a duplication of effort that exists when the same type of equipment is called for in more than one task of the basic contract. This requires that the contractor must compute requirements separately for each task. Recognizing that the same inventory manager must review the contractor's recommendations, it would be desirable, through improved programming documents (Form 555), to have the contractor make one computation, taking into consideration

RESPONDENT 1 - QUESTION 4 - Continued:

all applications of equipment for which the computation is being made. Again, the point must be made that every time the contractor generates a document due to the contract task or item arrangement, the Air Force must likewise handle this documentation on a task basis. The second problem, which is possibly more serious than the first, is in the fact that 90% of the contractor's recommendations are changed once they are reviewed by the items managers. An aggressive effort has been made to improve the quality of the programming data being furnished by the Air Force Logistics Command (OOAMA) in order to improve the effectiveness of the contractor's requirements analysis. However, after two years of exercising this problem, the solution has still not been determined. In light of expenditures required by the contractor to perform this effort, it appears desirable to either delete this requirement from the specification or to provide the ground rules that would allow the contractor to be at a minimum 80% effective in his requirements computation. This problem is peculiar to AFLC and not to AFSC inasmuch as the computation requirements in the AFSC area are, for the most part, the responsibility of the contractor. Possibly no other area for which improvement is suggested could have the cost saving effect that changes to this area would bring about. If you consider that approximately 31,000 spares computations were required on the initial procurement contract and that 90% of these were changed based on the inventory manager's computation, you then have an idea of the magnitude of this problem.

(e) Not fully understanding your intended use of the words "obsolescence factor," I assume that the definition involves design changes affecting provisioned hardware. It does not appear that one or multiple contracts would have any real effect on the obsolescence factor. It is recognized, however, that improvement should be made in the method established for determining life-of-type buys for those items which the contract is changing tooling and test equipment capability for new configuration items. Any subsequent decision for spares requirements by AFLC or AFSC obviously would involve retooling and setup costs which, in turn, would increase the hardware procurement cost.

RESPONDENT 2 - QUESTION 4

(a,b,c) Contrary to the inference contained in the questionnaire, at the present time on the Minuteman program there is only one contract written covering all requirements, i.e. ATC, BSD and AFLC requirements. These areas are, however, incorporated as separate items within a contract. These separate items are required for the purpose of cost segregation and funding considerations. At present in the spares area, there is no duplication between BSD and AFLC requirements. Duplications do, however, exist within the contract specifications governing ATC and AFLC requirements. However, generally such duplications have been

RESPONDENT 2 - QUESTION 4 - Continued:

Eliminated through coordination with ATC and the Prime AFLC Air Materiel Area.

(d) We do have to provide separate drawings, specifications, etc. for each item within a contract.

(e) We do have to compute requirements separately for each item on the contract.

(f) We have no reason to believe that the obsolescence factor would increase if one contract was written for all requirements.

RESPONDENT 3 - QUESTION 4

(a) Yes. One contract would reduce contractor cost, Air Force cost and procedural conflicts. This is dependent of course on the three commands being able to identify their requirement adequately.

(b) No. Not for the basic similar requirements. Present practice is use one contract wherever possible.

(c) The principal justifications used are dissimilar requirements and/or the desire to retain managerial control.

(d) Yes and no. It depends on the contract and the exhibit.

(e) Yes. In order to compute costs per contract.

(f) No. Depending on the communication between AF Commands at the requirements level.

RESPONDENT 4 - QUESTION 4

(a) Yes, in order to standardize the provisioning procedures and guidelines to be utilized.

(b) Yes.

RESPONDENT 5 - QUESTION 4

Yes. Under present charter, AFSC has procurement responsibility for equipment (AGE) and AFLC has spares support. It is believed that 1 contract for equipment requirements and 1 contract for spares support is necessary. In this way, single documentation would be developed for AGE

RESPONDENT 5 - QUESTION 4 - Continued:

and single document for spares support. One contract for AGE and spares support could be more economical if one Command were responsible for all procurement and funding was accomplished from one fund.

(b) No standard procedures have been developed. Depending upon funds and responsibilities involved, some requirements are consolidated, others are put on separate contracts.

(c) Funding, procurement responsibility

(d) Depends upon situation involved, contract terminology, type of equipment.

(e) Apparently it would. Also dependent upon requirements, type of contract.

(f) One contract should decrease obsolescence. All design changes, approvals, updating, etc., could be accomplished concurrently.

RESPONDENT 6 - QUESTION 4

(a) I believe that one contract should be written for all ATC, BSD and AFLC requirements for the initial weapon system procurement. This would save on duplication of contractor records, increased contractor manpower, AFPR records and management and would make administration much easier.

(b) Yes.

(c) The justification given for separate contracts are primarily jurisdictional, resulting from conflicts and overlapping responsibilities between AFLC and AFSC.

(d) Yes, in the case of ATC requirements.

(e) Yes.

(f) No.

RESPONDENT 7 - QUESTION 4

(a) The SM-80 contract AF04(694)-580 is a good example of where the three types of spares requirements are placed on a single contract. However, separate documentation (duplicated) is received for each of the separate items; i.e., ATC, A&CO, AFLC.

RESPONDENT 7 - QUESTION 4 - Continued:

(b) As pointed out previously, the SM-80 contract -580 covers ATC, A&CO and AFLC requirements even though each of these requirements is a separate line item on the contract. However, in the Atlas and Titan programs, separate contracts have been let for these different requirements.

(c) I do not know.

(d and e) Yes

(f) No. In fact, it is my belief that the obsolescence factor could conceivably be decreased over that encountered under separate contracts in that development engineering and design changes which occur would only have to be documented one time to update all spares requirements, as opposed to separate documentation and the possibility of one or the other sets of documents not being updated because of volume of paperwork, channels, handling by personnel, etc.

RESPONDENT 8 - QUESTION 4

(b) Basically the separate command (BSD/AFLC) budgeting and funding requirements dictate this practice.

(c) BSD (AFSC) is responsible for acquisition to include I&C (A&CO) phase; whereas AFLC is responsible for operational support of the weapon systems.

(d) No.

(e) No. Only for I&C/A&CO task - AFLC provisions initial operational spares.

(f) Not necessarily - this would depend on the time-phasing applied to the solution and acquisition of spares.

RESPONDENT 9 - QUESTION 4

(a) Not for ATC, or for follow-on (See 4 (c))

(b) Yes.

(c) Separate control of funds. Commands can adjust contract requirements to individual needs with minimum coordination and/or concurrence.

(d and e) Yes.

RESPONDENT 10 -QUESTION 4

(a) ATC, BSD and AFLC are supported with operational spares from the same contract, although each agency receives different items of the contract.

(b) This question can be answered both yes and no. The Atlas spares contract supported 22 different projects performed with the Atlas missile. Under the Titan and Atlas programs there were more different types of spares required than apply to Minuteman operation.

(c) This office knows of no justification that could be given for the issuance of separate contracts.

(d and e) Yes.

(f) No. It is believed that the obsolescence factor would decrease as design changes could be incorporated program-wide instead of incremental basis.

RESPONDENT 11 - QUESTION 4

(a) In most cases, spare parts for BSD, AFLC and ATC are, could and should be a consolidated contract requirement. Although most of the "spare parts" are the same, separate management is varied and expensive.

(b) Yes. Separate contracts.

(c) Three different commands, three different requirements.

(d) No, although duplication can be expected.

(e) Yes.

(f) No, it should decrease.

RESPONDENT 12 - QUESTION 4

(a) Separate line items should be included on a single contract to cover all spares provisioning requirements attendant to that contract. Reason: Contract Administration would be reduced, stronger tie-in of spares with the end article and more rigid control over contractors.

(b) Yes.

(c) AFLC prerogative.

RESPONDENT 12 - QUESTION 4 - Continued:

(d) No

(e) Qualified yes, the contractor has to recommend spare quantities for each contract or line items.

(f) No, number of contracts has no bearing on design changes.

RESPONDENT 13 - QUESTION 4

(a) Yes. I believe one contractor should be held responsible for the preparation and submittal of provisioning documentation for the entire system rather than a group of associated contractors each going their own way. I definitely feel that spare parts must be provisioned against the end article contract and not on a separate spares contract.

(b) and (c) Don't know

(d) Yes, but not for the same items.

(e) Yes.

(f) No, this should be more economical because it would permit larger buys at lower unit costs, the contractor could reduce his administrative work related to shop releases, purchase orders, etc. These costs are considerable when we repetitively buy the same spares, AGE each Fiscal Year. Obsolescence can be overcome by scheduling deliveries in a/w operational dates.

5. (a) Are ND numbers now used for spares for tools? (FSC and manufacturing part number)?

(b) How many items are involved? (Estimate)

(c) Are they normally one time buy?

(d) Is it more timely and economical (to ND) than complete cataloging?

RESPONDENT 1 - QUESTION 5

(a) We are not using ND numbers; however, OOAMA is seriously considering the use of the ND number for depot tooling and test equipment spares.

RESPONDENT 1 - QUESTION 5 - Continued:

(b) If OOAMA is successful in implementing the ND number procedure, it would cover approximately three or four thousand items.

(c) A review of the DTTE spares indicates that the majority of items would be in the category of one-time buys and this is the basis for pursuing the assignment of ND numbers.

(d) If we understand the ND procedure correctly, it appears that only the future holds the answer to the question of economics. If it is proven that the majority of items using the ND number assignment procedure were, in fact, one-time buys, then there will obviously be a cost savings. Timeliness seems to be a definite advantage in favor of ND number assignment.

RESPONDENT 2 - QUESTION 5

(a) Spares for depot tooling fall under the provision of the Federal Cataloging specification under the terms of our Minuteman contracts. These items are entered into the Air Force Supply System under the Federal Stock Number rather than a ND number.

RESPONDENT 3 - QUESTION 5

(a) Yes

(b) Approximately 2000 for FY 63 Ballistic Missiles.

(c and d) Yes

RESPONDENT 5 - QUESTION 5

(a) Yes, AFLC has recently directed ND number assignment to depot tooling spares (April 1963).

(b) Estimate 4-5,000 items involved at SBAMA.

(c and d) Yes.

RESPONDENT 6 - QUESTION 5

(a) Yes

(b) The number of items involved for spares and tools is estimated to be approximately 125,000 for the Titan II program.

RESPONDENT 6 - QUESTION 5 - Continued:

(c) It depends on the item. There is no yes or no answer to this question.

(d) Yes

RESPONDENT 7 - QUESTION 5

(a) Yes. A decision was just recently handed down that ND numbers would be assigned to spares for tools on a one-time buy item basis, as opposed to the previous practice of stock listing all of these spares. However, this new concept will not be found in evidence on all existing contracts due to the fact that spares for tools were provisioned prior to this decision.

(b) It is estimated that between three and four thousand items provisioned on weapons prime at SBAMA (SM-65 and SM-68) fall into this category. I would hesitate to estimate a figure for the Air Force at this time.

(c) and (d) Yes

RESPONDENT 8 - QUESTION 5

(a) No

(c) No

(d) Yes. However, all items entering the AF inventory must be cataloged.

RESPONDENT 9 - QUESTION 5

(a) No

RESPONDENT 10 - QUESTION 5

(a),(c),(d) Yes

(b) There is an estimated three to five thousand items of different class codes depending on the weapon system involved.

RESPONDENT 11 - QUESTION 5

(a) No, don't believe so.

RESPONDENT 13 - QUESTION 5

(a) Yes

(b) Don't know

(c and d) Yes, I think so.

6. What do you think about the possibility of having Resident Processing or Resident Support teams assigning ND numbers (FSC and manufacturing part numbers) to Cat III peculiar items, with management control assigned to the prime IM of the weapon, i.e., SM 80 OOAMA, regardless of class responsibility? Comment please.

RESPONDENT 1 - QUESTION 6

The resident team should be delegated the authority and responsibility for the assignment of ND numbers.

RESPONDENT 2 - QUESTION 6

ND numbers not used.

RESPONDENT 3 - QUESTION 6

Definitely not. The present structure for resident teams does not provide for either the personnel skills or the support data for adequate decision by the resident team. Even if skills were available adequate data support would be extensive duplication of SSM/AMA and IM/AMA data.

RESPONDENT 5 - QUESTION 6

Original concept in the Thor provided all peculiar items would be managed by part number only. Only those items already in the Air Force system would be managed by FSN. This concept was changed, cataloging required on all items. It is believed Cat III peculiar items would be effectively managed by the prime weapon IM by assignment of ND or similar number.

RESPONDENT 6 - QUESTION 6

I think the possibility of having a Resident Processing or Resident Supporting team assigning ND numbers to Cat I and II items would save a lot of time and a lot of money in the cataloging and documentation areas for all spare parts and for peculiar items of support equipment through the initial phase-out of weapon system development and activation program. I think it would be a waste of time to control each Category III item either peculiar or standard because by definition, these items are not worth this much effort because they cost less than $10 each. All Category III procured items for support for even a complex weapon system could be procured in bulk at a savings if the amount it would cost to control each and every Category II item.

RESPONDENT 7 - QUESTION 6

The situation questioned is not a possibility but is an actuality. ND numbers are assigned at the time of provisioning to any item regardless of cost category or class code (being procured on a one-time basis), by the weapon-prime-depot cataloging organization.

RESPONDENT 9 - QUESTION 6

It is not clear how peculiarity of Cat III items can be assured over an extended period of time. However, presuming such assurance is possible, having all cost category peculiar items controlled by prime IM is proper approach. Use of ND numbers could obviate the ability of any IM making proper replenishment procurement owing to the instability of part numbers of parts not designed to MIL D 70327 requirements. Also ND number does not become discreet unless modified by Federal Manufacturers Code.

RESPONDENT 10 - QUESTION 6

The recommended procedure appears acceptable. The prime inventory manager (IM) assigns the ND number regardless of the class category. The IM controls all blocks of ND numbers, whether given to resident team members or not.

RESIDENT 11 - QUESTION 6

I believe a composite resident team of management and technical representatives can most economically and feasibly acquire spare parts support. Further, FSC and part numbers on all new spare parts could be used up to the point in time that spare parts would be turned over to the using command. This would facilitate identification, changes, and eliminate the costs of BSN's and publication of many parts that would be designed-out.

RESPONDENT 11 - QUESTION 6 - Continued:

To date, the AF Resident Provisioning Team at Martin-Denver has proven a step in the right direction to a future provisioning system.

RESPONDENT 13 - QUESTION 6

This is basically a cataloging function. I am in no position to comment although cataloging policies bear some looking into.

7. In view of the high costs for Guidance System spares, do you believe some organic capability should be developed at the site, bases, or depots rather than to ship all guidance systems to Newark SRA regardless of complexity of task? Comment please.

RESPONDENT 1 - QUESTION 7

I am sure you are aware that continued maintenance studies are being made concerning this matter in order to obtain maximum support. It appears at this time that the maintenance philosophy, as established for the Minuteman Program, is effective and consistent with good economic and management policies.

RESPONDENT 2 - QUESTION 7

We are not in a good position to comment on this particular question due to the fact that the guidance system is not the responsibility our company but is the responsibility of the _____ Division of _____ The determination for development of maintenance capabilities at a site, base or depot is purely dependent upon the type of weapon system involved, the maintenance facilities available, the economics of training personnel in their specialized maintenance tasks as well as the geographic installation of the weapon system.

RESPONDENT 3 - QUESTION 7

This not only should be done, it is in progress or has actually ben accomplished at least in the major Ballistic Missile Systems.

RESPONDENT 4 - QUESTION 7

Developing an organic repair capability at the missile site, base or depot would be highly desirable but very impractical for the following reaspons:

1. To perform complete repair of a guidance system, it would be necessary to construct both Class II clean rooms for the stable platform repair and Class IV clean rooms for accelerometers, gyroscopes, and computer repair.

2. The construction site itself must be suitably located in an extremely stable area to minimuze chances of calibration error due to the seismic disturbances.

.An acceptable level of vibration can only be achieved thru the installation of seismic isolation concrete blocks resting on a solid bed of sand, cushioned with a plastic lining. These isolation blocks are very expensive and are a significant factor in determining the cost of an MCP. Therefore, even though the buildings themselves were available and space was adequate, it would necessitate a major construction program just to install the seismic blocks.

3. Basic real property installed equipment such as air conditioning, air filtering and deionized water systems are specially designed to meet the rigid standards of cleanliness and humidity for the Class II and Class IV clean rooms.

.This type of equipment is extremely expensive and cannot be compromised to reduce cost without seriously degrading the operational efficiency and accuracy of the guidance system.

4. From the date the MCP is originally submitted until it is approved by Congress, there are numerous equipment design changes which makes accurate pre-planning of electrical and plumbing requirements virtually impossible. Consequently, extensive and costly facility modifications can be expected prior to final installation and checkout of equipment.

5. The cost of peculiar test equipment such as the sterling earth rate tables, function test consoles, theodilites, vertical automatic test equipment, and cut and weld stations, etc., to establish even a limited repair capability would be prohibitive.

6. Skilled engineers and technicians to perform test and repair functions require six weeks of classroom training by _____, on theory and six months of factory training by _____, _____ or _____. Although the cost of training in relation to the over-all program is not exorbitant, the recruiting of qualified personnel with the required fundamental technical background would truly be a major problem.

7. Special equipment sensitive enough to calibrate a guidance system is only available at the National Bureau of Standards, Washington, D. C., Boulder City, Colorado and the Heath Facility at Newark, Ohio.

.To establish a comparable degree of calibration capability at the Missile sites, bases or depots, would require a tremendous expenditure of funds.

8. There are numerous other factors which could be elaborated upon, it is obvious that the total cost of such a program even for a depot level capability could not be justified.

9. It is also pointed out that an impressive repair capability already exists at the contractors plant and when their initial production run is completed, the continued use of their facilities would seem very practical.

.If this is not considered a realistic approach in reducing the repair cycle time, then it is recommended that wherever possible, direct flight service between the missile sites and Port Columbus be established.

RESPONDENT 5 - QUESTION 7

Minimum repair in consonance with capability of "blue suiters." Single SRA is dictated by high cost of overhaul/test equipment vs. duplication of equipment at various sites/bases.

RESPONDENT 6 - QUESTION 7

Even though guidance systems spares are costly, I do not think the government can afford the necessary tooling and training to provide an organic capability at each operational base. I feel that it is incumbent upon AFLC to provide a depot organic capability to support our highly accurate guidance system.

RESPONDENT 7 - QUESTION 7

No. The maintenance concept developed for guidance systems spares evolved from the findings and recommendations of skilled and experienced technical personnel whose study included cost of spares under the existing concept versus the cost of additional facilities regardless of where they might be.

RESPONDENT 8 - QUESTION 7

This depends on the complexity of the task (repairs) to be performed, skills available and special tools and test equipment required to do the job.

RESPONDENT 9 - QUESTION 7

Do not believe guidance systems could be economically repaired at base level owing to skills and tool costs involved, but a detailed study would be required to answer properly.

RESPONDENT 10 - QUESTION 7

No. The maintenance contract given to Newark was issued after a considerable amount of study. Establishment of such maintenance operations at sites, bases, or depots would only duplicate single point service and would far exceed the cost involved in the capability that is already established at the Newark operation.

RESPONDENT 11 - QUESTION 7

In Titan II, an AFLC repair capability is being established. Details as to capability or economics are not available to me.

RESPONDENT 12 - QUESTION 7

In view of complexity of current guidance systems and the state-of-the-art it is doubtful that it would be economically feasible to accomplish any large degree of repair on guidance systems below depot level. Whenever you consider all facets of cost and resources required I believe the centralized repair concept has more distinct advantages than the decentralized concept.

RESPONDENT 13-QUESTION 7

No.

8. (a) Do you believe the present organizational arrangement for weapon systems management in the Air Force is the most efficient and economical?

   (b) Do you believe it would be practical to assign Weapon System Managers on a cradle to the grave concept, that is, from the birth of the weapon to the end of the program?

8. Continued:

i.e., The weapon system manager would be the focal point for all programming, budgeting, logistical support, operations and training for his weapon. A managerial concept similar to the "Hitch" concept for costing weapon systems is suggested here. Please comment.

RESPONDENT 1 - QUESTION 8

(a) The answer to earlier questions, I believe, have pointed out that a single program management approach to provisioned hardware would be more effective from an economics standpoint.

(b) I believe I have made myself clear regarding this matter in answering earlier questions.

RESPONDENT 2 - QUESTION 8

(a) No.

(b) Yes. Under the present policy, the Weapon System Manager as such is a misnomer in that the weapon system in reality has many managers. This is evident by the many depots who have their own operating policies and are not subject to control by a single agency. Today's Weapon System Manager has little control over timely establishment of requirements, budgets, assignment of Federal Stock Numbers, nor means of enforcing policies which are developed for the given weapon system.

RESPONDENT 3 - QUESTION 8

(a) No.

(b) Yes. The major problem would be whether this would result in an addition to the present structure or whether this could be achieved within the present structure; i.e., would we have to set up a new Command to be SSMs with input from SAC, AFLC, ATC, BSD, etc., or would we have the SPO in AFLC or BSD from birth to death. This would have to be resolved at the Air Force level.

RESPONDENT 4 - QUESTION 8

(a and b) Yes. The concepts of provisioning employed by the Titan II Program involves variations and departures from normal AF provisioning practices. These variations and departures from normal practices are for the express purpose of insuring timely and adequate support in the most effective and economical manner.

.It is highly desirable that the weapon system manager be recognized as the focal point for all programming, budgeting, logistical support which should include operations and training for his program.

.In the area of provisioning documentation a maximum utilization should be made of the data collected on AFLC Form 402A "Logistic Data Record for Advance Weapons" currently being utilized for the "TITAN" II program and should be applied to all ICBMs.

.Provisioning requirements computations are not being documented on computation forms in connection with the Titan II provisioning effort. In lieu thereof, quantities are being determined as administrative decisions based on factors affecting support requirements, such as issue rates, anticipated yearly issues, recoverability cost category, QPA, program effectivity, I&C assets, availability commitments, stock deployment requirements, etc.

RESPONDENT 5 - QUESTION 8

(a) No.

(b) Yes. Unless there is a realignment of functions within AFSC/AFLC, a weapon system manager per se cannot exist as stated. Management of the weapons syould be vested with one Command, with coordination from using Command.

RESPONDENT 6 - QUESTION 8

(a and b) No. I feel that AFLC should adopt a system manager organization so that the management function established by AFSC could be continued for logistical support. The present committee system of logistical support being provided by AFLC makes it almost a physical impossibility to support any weapon system in a timely and economical fashion.

RESPONDENT 7 - QUESTION 8

(a) No.

(b) Yes. I consider the assignment of a single Weapon System Manager to be responsible for a system from the time of its conception to the time it leaves the Air Force inventory to be a most practical and desirable method of operation. Such an assignment would have decided advantages over the present system whereby we phase out one manager and phase in another several years after the weapon system is conceived.

RESPONDENT 8 - QUESTION 8

(a and b) Yes. Agree - However, this would require top level realignment of AFSC/AFLC responsibilities and functions.

RESPONDENT 9 - QUESTION 8

(a) No.

(b) Yes. Such a concept would be difficult to execute due to the complex skills and experience needed during the various phases of a program. However, it would be a strong motivating factor to assure early and complete operability of the system.

RESPONDENT 10 - QUESTION 8

(a) No.

(b) Yes. It is believed to be in the best interest that a single focal point for programming, etc., for a weapon system, should be established.

RESPONDENT 11 - QUESTION 8

(a) No.

(b) Yes. Theoretically a System Support manager is assigned at the same time a System Program Director is assigned. The personnel staffing of an SSM should be time phased with the progress of the Weapon System predicated on valid workload. In the past the SSM has been too prone to become deeply involved in the acquisition phase; this can have as much an adverse affect as getting in too late. The point here is that Weapon Systems are introduced into the inventory on a step by step basis. I do not agree with the idea of the SSM being the focal point for all programming, budgeting, logistical support, operations and training for his weapon. I believe a better arrangement would be for these elements to be managed by the System Program Director.

RESPONDENT 13 - QUESTION 8

(a) No.

(b) Yes, but the Federal Cataloging System is predicated on management by items. There hase been for some time a desire by the Air Force to manage by weapon systems, but the Air Force is organized to manage by items in a/w the Federal Cataloging System. The emergence of DSA is still further step toward management by item so you have a constant conflict. A solution might be for AFLC to organize along the lines of AFSC and accept duplication of items among the Systems Managers.

9. Do you believe the Resident Processing Team - Resident Support Team concept is equally effective regardless of type of contract?

Yes ___ No ___

i.e., Comment on (a) Cost plus fixed fee
(b) Fixed price incentive with reset

RESPONDENT 1 - QUESTION 9

The Resident Support Team can be effective regardless of the type of contract provided the necessary responsibility and authority is delegated to this Team by the Weapon System Manager. Effective use of the Resident Support Team would play a major role in the reduction of provisioning cost.

RESPONDENT 2 - QUESTION 9

Under the Resident Support Team concept (as we know it) there are two major deficiencies which must be improved to make the Resident Team truly effective.

(a) The Resident Team must have POODing authority and responsibility.

(b) The Resident Team must have either out of class inventory manager representation on the team or must have the authority to place procurement in the absence of the out-of-class IM.

RESPONDENT 3 - QUESTION 9

The type of contract is not the controlling factor in effectiveness so much as the particular provisioning exhibit, the content of the contract and the skill of the provisioners.

RESPONDENT 5 - QUESTION 9

However the increased emphasis on cost reduction is an AF function under CPFF contracts. The Resident Team contributes much impetus to cost reduction. However, the day-by-day liaison provided by the Team is of significant value to the AF in the fix price contract area.

RESPONDENT 6 - QUESTION 9

Yes. The Resident Processing Team or Resident Support Team is independent on the type of contract which they operate in support of.

RESPONDENT 7 - QUESTION 9

Yes. I fail to see where type of contract, i.e., cost plus fixed fee versus fixed price incentive with reset, has any bearing on the effectiveness of the Resident Support Team concept. The effectiveness of this type of provisioning/evaluation/support actions is more directly the result of Air Force management application, contractor management application and Air Force/contractor compatibility and/or working relationship.

RESPONDE 8 - QUESTION 9

(a) is preferable since the Team is in a better position to monitor range and depth of items intended to be acquired by contractors to perform the I&C/A&CO task.

RESPONDENT 9 - QUESTION 9

Either type contract necessitates staffing team with responsible dedicated personnel who are consistently driving for optimum and most timely support for the weapon system.

RESPONDENT 10 - QUESTION 9

The effectivness of the Resident Processing Team, or Support Team, would not be altered by the type of contract involved. The cooperation of the Air Force and contractor personnel assigned to the team should remain the same. Under either type of contract in the missile field spares are still required. Therefore, the effectiveness of the team concept should not vary.

RESPONDENT 11 - QUESTION 9

Yes. Adequate coverage can be adopted to either.

RESPONDENT 12 - QUESTION 9

Yes. Type of contract should have no bearing upon the effectiveness or accomplishment of the Resident Support Team.

RESPONDENT 13 - QUESTION 9

My "no" is based on the premise that a single weapon system contract (without associate contractors) is more desirable and not on (a) or (b) above.

10. What do you consider to be the greatest weakness in present provisioning practices?

RESPONDENT 1 - QUESTION 10

The greatest weaknesses in the present provisioning practices appear to be in the following areas:

a. The time required to process provisioning documentation through the Air Force supply channels.

b. The duplication that exists due to the present methods of contracting.

c. The lack of adequate programming data and/or direction which allows the contractor to effectively perform in the requirements computation area.

d. Excessive data requirements as called for by the AFLC provisioning specifications.

e. The need for logistics training for contractor and Air Force personnel.

f. The need for contract incentives covering provisioning performance.

RESPONDENT 2 - QUESTION 10

The greatest weakness in present provisioning practices, in our opinion, is the extensive documentation flow time prior to placement of procurement. Also, too much provisioning data is generated on non-maintenance significant items causing the significant maintenance items to be buried within the mass of documentation. Provisioning systems should be tailored to highlight only those items which are significant to maintenance of the weapon system. Another serious weakness under present day provisioning practices is the lack of a single AFLC manager responsible for development, implementation and enforcement of provisioning policies for a given weapon system.

RESPONDENT 3 - QUESTION 10

Time. Time to perform pre-screening.

Time to develop adequate item identification.

Time to develop realistic requirements and advise the contractor.

RESPONDENT 4 - QUESTION 10

Initial provisioning is just a WAG on the part of the contractor. The Air Force has no experience on the items at this time and must of necessity rely on the contractor recommendations.

RESPONDENT 5 - QUESTION 10

Lack of standardization and coordination. This can be best remedied by true weapon system management, one managed from concept to phase out, by a single command, a single manager.

RESPONDENT 6 - QUESTION 10

The greatest weakness in the present provisioning practices are that they were never designed to provide logistical support in a timely fashion. Too many controls are arbitrarily applied to items of insignificant cost. Also, too many data are required which are really unnecessary to perform the buying function the way it is being done. An order is placed with a contractor by the provisioning team but the order can be amended or cancelled by the IM involved "at will" depending upon the whim of the person reviewing the order at the affected IM.

RESPONDENT 7 - QUESTION 10

The absence of a single modern provisioning process which would generate provisioning and technical data (from the inception of Phase II of a weapon system) capable of being updated and extracted to various Air Force commands in the format and detail required on a timely basis. Such a system, properly policed and with a minimum of contractual deviations and omissions permitted, would eliminate the problem of procuring duplicate documentations and technical data and would provide the required technical data on a schedule more in consonance with program needs than is presently being experienced. Such a system would also enhance the application of the Department of Defense policy on maximum utilization of Air Force assets and the desire of all agencies to preclude the procurement of identical items in support of different phases of programs, in excess of total program needs.

RESPONDENT 8 - QUESTION 10

The lack of hard-core team of source-coding/provisioning specialists. These should be at the GS-13 and 14 level and devote full time to provisioning.

RESPONDENT 9 - QUESTION 10

Inability of SSM to implement complete initial s upport without extensive coordination and concurrence by the IMs who are remote to the problem of fielding the weapon system. (See 1 above)

RESPONDENT 10 - QUESTION 10

The biggest weakness is the lack of single documentation for updating for weapon system-wide use, from the R&D phase through I&C and operational. This would eliminate duplication of effort and obtain the utmost utilization of all properties and would reduce the amount of excesses under a program.

RESPONDENT 11 - QUESTION 10

Present practices are neither designed for concurrency support, nor are they adaptable to I&C support. The AFLC over-all system is too broad and cumbersome to provide timely support in associated aspects under the IM's responsibilities.

RESPONDENT 12 - QUESTION 10

People - The glamour of provisioning work seems to have lost its effect to attract the best qualified people to do th work. I sincerely believe that the Air Force would save money by discontinuing the convening of provisioning conferences at the contractors' plants and requiring the contractor to provide a team to come to the SSM or IM Air Materiel Area, By doing this, the SSM could establish a permanent Depot Provisioning Team, maintain AF continuity and drastically reduce travel and per-diem expense.

RESPONDENT 13 - QUESTION 10

(1) The AFLC decentralized organization.

(2) Lack of continuity of personnel and fully qualified personnel making decisions.

(3) The length of time required to furnish the contractor an order.

11. Many item numbers entered the cataloging system based on quick-look decisions. On second look a no requirement determination was made. Would assignment of ND numbers on quick-look resolve the problem of unnecessary cataloging?

Yes No

RESPONDENT 1 - QUESTION 11

I assume that your reference to "quick-look" involves the pre-screening exercise conducted by the contractor. I also assume your reference to a "second look" where a no buy determination is made has reference to the characteristic screening that is conducted by the inventory managers. If we assume that pre-screening is not effective, then the assignment of ND numbers would possibly eliminate unnecessary cataloging effort. However, it appears that the emphasis should be on improving the pre-screening system rather than placing the emphasis on ND number assignment.

RESPONDENT 3 - QUESTION 11

This is not the function of ND numbers and to use ND numbers for this purpose would foul up the system. NC numbers are no better. A specific number should be devised for this purpose.

RESPONDENT 4 - QUESTION 11

An item covering the system based on a quick-look decision is the result of inadequate or no research effort. This, I feel, is the lack of discipline on the part of our responsible depot personnel. The assignment of ND numbers would eliminate unnecessary cataloging actions when the item is a one-buy or spares for depot tooling, etc. The SSM would manage this item until a recurring requirement makes cataloging action necessary.

RESPONDENT 5 - QUESTION 11

The resident team procedure coupled with characteristic screening by the IM reduces unnecessary cataloging of items to a minimum. ND number assignments should be confined to weapon peculiar items.

RESPONDENT 6 - QUESTION 11

Yes

RESPONDENT 7 - QUESTION 11

If I interpret your question correctly, you would propose to assign an ND number to every item determined to have a buy requirement the first time the item appeared. This ND number would be allowed to govern until such time as a second look was made and the first decision confirmed at which time appropriate cataloging action would be taken. Assuming that this interpretation is correct and recognizing that more items originally cataloged remain active than those on which the original decision is reversed and it is decided the item should not have been cataloged, it would appear that your proposal would merely delay the initiation of cataloging action on the majority of the items which were all right to begin with, thereby further delaying the consummation of cataloging actions which already seem to take too much time. This would tend to increase the number of instances where documentation requires revision and update to the assignment of Federal Stock Numbers and cases where items cannot be shipped by contractors because Federal Stock Numbers have not yet been assigned. I believe that with the adoption of a single modern system (reference question 10 above) and the associated timely submission and evaluation of more adequate technical data, the incidence of refersed decisions from the initial look (it would not have to be a quick-look) to the first review of original decisions would be drastically reduced from what it is today, thereby giving us an even higher percentage of first-look valid decisions.

RESPONDENT 8 - QUESTION 11

Yes. In many instances, however, it is cheaper and quicker to "back" an item out of the system than to delay cataloging actions. If items are provisioned by a qualified team, the quick-look items ordered should be in the minority.

RESPONDENT 9 - QUESTION 11

No.

RESPONDENT 10 - QUESTION 11

No. It is agreed that this is a go, no-go proposition, however, the items rejected as final buy are far less than the numbers finally confirmed. To assign ND numbers and to later require Federal cataloging would prolong the cataloging period.

RESPONDENT 11 - QUESTION 11

Yes. (or using FSC+P/N, ref Question 6)

RESPONDENT 12 - QUESTION 11

No.

RESPONDENT 13 - QUESTION 11

Yes, or the non-assignment of any kind of a number until a repetition usage is established for the item.

APPENDIX E

AFSCR 400-3/AFLCR 400-19. JOINT USE OF CONTRACTORS' IN-PRODUCTION SUPPORT SPARES AND OPERATIONAL SUPPORT SPARES IN SELECTED MISSILE PROGRAMS

AFLC REGULATION
NO. 400-19
AFSC REGULATION
NO. 400-3

HQ, AIR FORCE LOGISTICS COMMAND
Wright-Patterson Air Force Base, Ohio
HQ, AIR FORCE SYSTEMS COMMAND
Andrews Air Force Base, Washington 25, D. C.
28 September 1962

Logistics

JOINT USE OF CONTRACTORS' IN-PRODUCTION SUPPORT MATERIALS AND OPERATIONAL SUPPORT SPARES IN SELECTED MISSILE PROGRAMS

PURPOSE: This regulation establishes policies, prescribes procedures, and assigns responsibilities for common/joint use of contractors' in-production support materials—cost category I and IIR (recoverable) spares—and initial operational spares which have been or will be procured in support of the SM-68 (Titan II) and SM-80 (Minuteman) weapon systems and other selected systems. It applies to all AFSC and AFLC organizations engaged in establishing requirements, provisioning, maintaining surveillance of contractors' management of in-production support materials, and distributing and disposing of materials acquired to support site activation (I&C and A&CO) and operational programs.

1. EXPLANATION OF TERMS. For purposes of this regulation, the following terms are defined:

a. *Acquisition Phase.* The period of time from the end of the conceptual phase until (1) all required updating changes resulting from the category II test program (AFR 80-14) are identified, approved, and procured (placed on contract) or (2) acceptance by the user of the last operating unit in a given series of a system/equipment program, whichever occurs later.

b. *Operational Phase.* The period from acceptance by the user of the first operational unit until disposition of the system. The operational phase overlaps the acquisition phase.

c. *Site Activation.* Commonly referred to as installation and checkout (I&C), assembly and checkout (A&CO), emplacement, installation, and test (EI&T), or provisional facility acceptance (PFA); the integration of system facilities and hardware at the operational site into a complete and functionally checked out or facility system prior to acceptance by the Air Force for operational use.

d. *Production Line.* The composite of all stages of the fabrication and assembly process, including the complete and final assembly and checkout at the field location.

e. *Materials.* Property, including real property installed equipment (RPIE) support items, which may be incorporated into or attached to an end item to be delivered under a contract or which may be consumed or expended in the performance of a contract. The term includes but is not limited to raw and processed material, parts, components, assemblies, and small tools and supplies which may be consumed in normal use in the performance of the contract.

f. *In-Production Support Materials.* Items of material required by the contractor to support his production line (includes site-activation tasks).

g. *Joint Use.* The process of satisfying AFLC's operational requirements from materials (cost category I and IIR spares) acquired by AFSC to support the site-activation task (I&C/A&CO); conversely, materials (cost category I and IIR spares) acquired by AFLC for operational support and also used to satisfy AFSC's site-activation requirements.

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DISTRIBUTION: M (AFLC)
S (AFSC)

2. POLICY. Air Force policy is that site-activation tasks will be performed by designated contractors as an extension of contractors' production-line efforts. Items (except those specifically designated to be furnished by the USAF) and materials necessary to perform site-activation tasks will be furnished by designated contractors. Contractors will be authorized to advance or adjust production schedules to comply with this policy and meet program objectives. As site activation progresses, contractor-furnished items and materials no longer needed to complete site-activation tasks or for joint use will be recycled back into production and updated to the configuration and quality standards of like items in existing production. Items and materials excess to the production effort will be identified by the contractor and applied against existing Air Force spares orders or reported to AFLC for application against future operational requirements. Maximum joint use will be made of materials acquired by (a) contractors engaged in ballistic missile site activation and (b) AFLC for operational support. The objective is to reduce residual site-activation support materials to an absolute minimum and to reduce the quantity of spares to be procured in support of the operational programs.

3. RESPONSIBILITIES OF THE AIR FORCE SYSTEMS COMMAND (AFSC). AFSC is responsible for systems acquisition. This responsibility includes the assembly, installation, and checkout of operational systems in the field by designated integrating contractors. Items (except those specifically designated to be furnished by the USAF) and materials necessary to perform site-activation tasks will be furnished by designated contractors in accordance with contractual arrangements with the Air Force (system program director). Surveillance of the contractors' management of in-production support materials, to include disposition of materials no longer required to complete site-activation tasks, will be exercised by AFSC. During the acquisition phase, the appropriate system program director will:

a. Budget, fund, and obtain contractual coverage for performance of the site-activation tasks by selected contractors consistent with AFR 375-4. For the purpose of implementing this regulation, this responsibility will include budgeting, funding, and obtaining contractual coverage for maintaining all joint-use in-production support materials acquired by I&C/A&CO contractors in updated configuration and serviceable condition.

b. Be responsible for the acquisition of in-production support materials (I&C and A&CO spares) to support the I&C/A&CO effort.

c. Maintain records of all I&C/A&CO in-production support materials and provide listings of them to AFLC system support managers (SSMs) for review and consideration when placing initial spares provisioning orders.

d. Jointly review I&C/A&CO in-production support materials listings with AFLC SSMs to determine individual items applicable to joint I&C/A&CO and operational support use.

e. Take necessary contractual action to have contractors maintain in-production support materials (spares and spare parts) in a continually updated serviceable configuration status as approved by the system program director and the SSM.

f. Take necessary contractual action to have contractors repair designated I&C/A&CO spares and spare parts selected for joint use until the particular base where the I&C/A&CO effort is being conducted have been turned over to the operating command (SAC).

g. Determine jointly with the AFLC SSM the allocation of spares and spare parts for all items in the AFH industrial property account and the AFW weapon system account applicable to joint I&C/A&CO and operational support use.

h. Maintain management cognizance over all I&C/A&CO support materials (spares and spare parts) selected for joint use during the I&C/A&CO effort at each site until the site is activated and turned over to the operating command.

i. Maintain consolidated inventory reports of joint-use items located at bases and locations.

j. Arrange with AFLC (appropriate SSM) to make available to I&C/A&CO contractors the operational support items they need in emergency situations, to prevent work stoppages, etc.

k. Arrange with the contractor for reviews of joint-use items at a frequency determined by the system program office (SPO) and the SSM. This review will serve to update inventory records, use data, factor changes, and attrition and will consider catastrophic incidents, etc.

4. RESPONSIBILITIES OF THE AIR FORCE LOGISTICS COMMAND (AFLC). AFLC is responsible for management of Air Force spares and spare parts, including the budgeting, funding, acquisition, and inventory control of all items introduced into the Air Force inventory for support of operational systems, sybsystems, and components. This responsibility is delegated to the SSM who will, in conjunction with the appropriate inventory manager (IM):

a. Establish the range and select the quantity of spares and spare parts required for operational support.

b. Jointly review I&C/A&CO in-production support materials listings with AFSC to determine individual items applicable to joint I&C/A&CO and operational support use.

c. Accept in-production support materials (spares and spare parts) listings from the designated AFSC contractor and consider these items/quantities as assets in establishing operational requirements.

d. Determine jointly with the AFSC (SPO) the allocation of spares and spare parts for all items in the AFH and AFW accounts applicable to joint I&C/A&CO and operational support use.

e. Participate with AFSC and the contractor in review of joint-use items to insure that the quantity of I&C/A&CO category I and IIR items selected for joint use will not be duplicated when initial spares provisioning orders are being placed.

f. Provide the contractor with a list of selected joint-use items that will enter the AF inventory for purposes of inclusion in applicable provisioning documentation (e.g., the Provisioning Parts Breakdown (PPB), the Spare Parts List (SPL), and -4 handbooks) and preparation of Federal Standard 5 item descriptions for Federal stock number (FSN) assignment and cataloging purposes. Costs incurred will be applied against applicable spares contract.

g. Determine and fund for packaging and preservation requirements for materials that will be transferred from the AFH (I&C/A&CO) to the AFW account.

h. Provide technical assistance to AFSC as required in determining spares to be acquired to support I&C and A&CO tasks.

i. Designate the items marked for joint use by memorandum record in the Automatic Resupply Logistics System (ARLS).

j. Insure that depot-level maintenance responsibility is assumed for support of the operational program.

k. Provide operational support items to I&C/A&CO contractors in emergency situations, to prevent work stoppage, etc.

l. Upon completion of I&C at a given base, arrange for turnover of joint-use items in latest serviceable configuration to the appropriate AF supply account.

AFLCR 400-19
AFSCR 400-3

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APPENDIX F

AUTHORITY TO ND SPARES FOR TOOLS

C O P Y

JOINT MESSAGEFORM

UNCLASSIFIED

ACTION: PRIORITY

ACCOUNTING SYMBOL
AF

FROM;

HQ AFLC WPAFB OHIO

TO:
SEE ATTACHED LIST

UNCLAS MCSI 23113

FOR: CATALOGING COMPONENTS. REFERENCE IS MADE TO HEADQUARTERS AFLC MESSAGES, MCS 19796, DATED 26 FEBRUARY 1963 AND MCSI 20772, DATED 4 MARCH 1963. PART IV, FIRST SENTENCE OF THE ABOVE MESSAGES IS CORRECTED TO READ, "THE SPARE PARTS APPROVED FOR PROCUREMENT BY THE AIR FORCE WILL BE ACCOUNTED FOR IN THE AFD 2070 IM "01" ACCOUNT. SBAMA WILL TREAT AND MANAGE THESE ITEMS UNDER MMC "VS" SUBSYSTEM AGGREGATE MANAGEMENT PACKAGE. THESE ITEMS WILL BE IDENTIFIED BY AN "ND" NUMBER ASSIGNED BY SBAMA, AND THE "VS" MATERIEL MANAGEMENT CODE, IN ACCORDANCE WITH AFM 67-1, PART ONE, VOLUME I, CHAPTER 7."

DATE		
13		
MONTH	YEAR	
MAR	1963	

SYMBOL: MCSIHA

SIGNED BY: MR. J. P. HOWERTON/npn

PHONE; 50107 Page 1 Nr of Pages: 1

UNCLASSIFIED

C O P Y

C O P Y

FM AFLC WPAFB
TO SBAMA NORTON AFB CALIF
BT
UNCLAS MCS 197 96
FOR: SBG. THIS MESSAGE IN FIVE PARTS. PART I. THE FOLLOWING USAF CONTRACTS CONTAIN ITEMS WHICH REPRESENT SPARES FOR TITAN II, DMGE (DEPOT TOOLS) WHICH ARE OR WILL BE PROVISIONED IN ACCORDANCE WITH AFPI 71-666, SHORT FORM PROVISIONING PROCEDURES. AF 04(607)-603 2, AF 04 (607)-7504. AF 04(607)-7720, AF 04(607)-7167, AND AF 04(607)-7742. PART II. THE END ARTICIES WILL APPEAR IN AN OFFICIAL AUTHORIZATION DOCUMENT WITH FEDERAL STOCK NUMBERS (FSN'S) ASSIGNED. PART

PAGE TWO BDCDSQ 3C
III. AFPI 71-6 66 PROVIDES THAT UPON RECEIPT OF AN EXECUTED COPY OF THE CONTRACT, THE CONTRACTOR WITHOUT FURTHER AIR FORCE APPROVAL, FABRICATES OR PLACES ORDERS WITH HIS VENDORS FOR THE QUANTITIES OF SPARE PARTS HE ESTIMATES AS REQUIRED TO MAINTAIN THE END ARTICLES FOR TWELVE MONTHS. PART IV. THE SPARE PARTS APPROVED FOR PROCUREMENT BY THE AIR FORCE WILL BE ACCOUNTED FOR IN THE DEPOT 01 ACCOUNT AND IDENTIFIED TO AN "ND" NUMBER IN ACCORDANCE WITH AFM 67-1, PART ONE, VOLUME I, CHAPTER 7, WITH SSM APPROVAL, SUBJECT SPARES MAY BE SHIPPED IMMEDIATELY TO THE DEPOT SITE BY USING FSC AND MANUFACTURER'S IDENTIFYING PART NUMBER. FOLLOW-ON FOR THESE ITEMS FOR WHICH ASN FSN CAN BE DETERMINED WILL BE REQUISITIONED THROUGH NORMAL CHANNELS. NSL ITEMS WILL BE LOCALLY PROCURED BY THE USING ACTIVITY REFERENCING THIS MESSAGE AS AUTHORITY. PART V. FSD -STD- 5 IDENTIFICATIONS CURRENTLY BEING RECEIVED ON CONTRACT AF 04(607)-6032 THAT HAVE NOT BEEN PROCESSED TO THE DEFENSE LOGISTICS SERVICES CENTER

PAGE THREE BUCDSQ 3C
(DLSC) FOR AN FSN WILL BE PROCESSED IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS.
BT
26/ 2119E FEB BUCDSQ

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BIBLIOGRAPHY

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This report represents the work of students of the School of Systems and Logistics. Material included in the report has been developed by the students as a portion of their educational program during attendance at the School.

These students have had considerable experience in various areas of military logistics. Consequently, the opportunity for them to concentrate this experience on the study of specific Air Force or Department of Defense current problems offers a potential not readily found elsewhere in the Air Force. The conclusions, and any recommendations, reached by the students may well be of significance for the military services. It is with this thought in mind that the individual studies are published.

From the school standpoint these studies are primarily an educational project; therefore, they should not be viewed by the reader as proposals or findings of the School of Systems and Logistics itself. The School's objectives are met through conduct of the research and preparation of the thesis; implementation is then up to the responsible agencies within the USAF or other services. You, the readers, are encouraged to give this report an objective appraisal to assess its applicability to current logistics problems.